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RISE OF THE STEAM MACHINES

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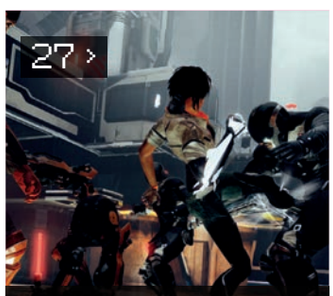

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EDITORIAL

MEAN MACHINES

NEW HARDWARE IS exciting right? And I mean a real new player in the living room gaming space – not another pretender like we have suffered in recent years.

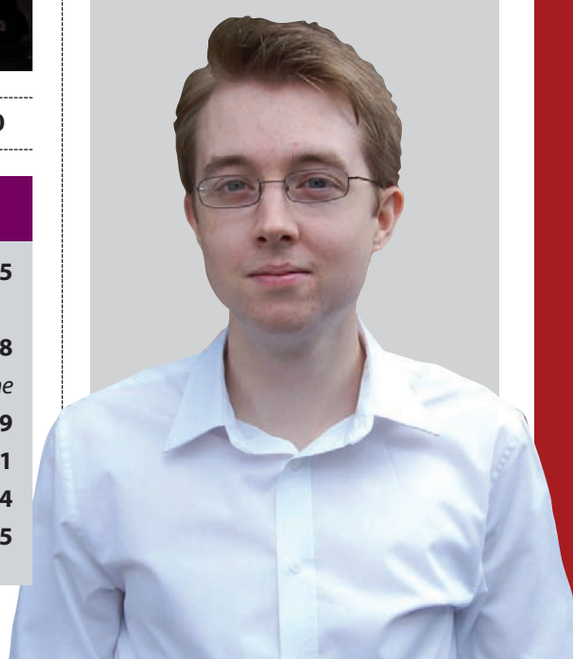
Valve's Steam Machines could be a real hit. It comes in many form factors, at varying costs and consumers can scale to whatever technical specifications that suit them. The controller is certainly unique, but it works. And the Steam Link is ideal for those who, for whatever reason, want to play their PC game on their living room TV but won't buy the hardware.

And developers like it too. Turn the page and you'll see Facepunch's Garry Newman, Size Five Games' Dan Marshall and Studio Wildcard's Jesse Rapczak all largely agreeing that developing for the Linux-based hardware can be a breeze. And it's much more open compared to the consoles from rivals Sony, Microsoft and Nintendo.

But some of what makes Steam Machines so potentially great could be its downfall. I've already got a PC, do I really need a Steam Machine for £400? Is bringing your game to Linux and a new platform really ideal for small indies?

And, ultimately, is it too late for Valve? Two years from the announcement and a launch delay later, and we're finally here. But things have changed vastly in the industry. Microsoft is opening up Windows more than ever, rather than closing it off, and the PS4 and Xbox One are selling like hotcakes. I hope it does well, but Valve hasn't been all that convincing in its pitch.

Craig Chapple
cchapple@nbmedia.com



Full Steam ahead

We speak to Valve's Gabe Newell and top PC games developers about Steam Machines, Link, that controller, SteamOS and why rivals should be worried

IT MAY BE surprising to hear, but it's been two over years since Valve announced its Steam Machines.

But 26 months later, and by the time you read this, a cohort of systems centred around the Linux-based SteamOS will be making their way to consumers.

Valve has also developed a new haptic controller and the Steam Link, which lets you stream your PC games to any TV in your home. It's an all-out attack on the living room and – though it may not be pitched this way – a real rival to consoles like Xbox One and PS4.

CONSOLE KILLERS

Speaking to *Develop* earlier this year, Valve boss Gabe Newell said the idea behind the Steam Machines is to have a system that's optimal for each individual's needs. He also launched a thinly-veiled attack on his rivals, suggesting he's sure the hardware will be a hot prospect for consumers.

"At console price points, we're going to have machines like Alienware's, which are faster than today's consoles," said Newell. "So the same price point as today, except you get better performance and you're connected to everything you like about the PC and the internet."

He added: "Our perception is that customers are always going to make the best choices for what they want. We can knock down the barriers that keep PC gaming out of the living room, and then customers can decide what they want. So the way we organised it, in our thinking, is a sort of 'good, better and best' kind of thing."

But is Valve too late? Steam Machines were developed at a time when Valve was concerned about Microsoft's apparent intentions to close off the PC market. But this hasn't transpired. In fact, Microsoft is opening up Windows for gaming more than ever. Is Valve doing it because it feels it now has to?

> ***"Steam Machines are a 'good, better and best' kind of thing."***
>
> Gabe Newell, Valve

And is there really a market for Steam Machines? Newell was bullish about naysayers, and looked to Valve's own past as proof it knows what it's doing.

"When we started with Steam, no-one believed you could deliver a better gaming experience over the internet, and we're like, well, we actually think it's probably an opportunity to do something," he said.

"So when we started pushing on this problem [with Steam Machines], there were a lot of people who said: 'nobody wants a PC in their living room'. And we're like 'okay, we need to break that down into tractable problems'. One is the user interface problem. How do you take something originally designed for keyboard and mouse and make it easy for both the interface and content developers to work in both spaces, to get the best out of both? That leads you to the Steam Big Picture mode.

"Then you say 'okay, now we need to have couch-friendly input devices and integrate touch'. So the gamepad is a controller, as well as a set of technologies that can then be integrated.

You can actually sort of logically deconstruct that and take pieces out. If you like the touchpads, you as the keyboard manufacturer can now put them on your keyboard and people will just know how they work, and games will know how they work."

DEV MACHINES

A new platform backed by one of the industry's biggest players is an attractive proposition for developers. But it also means more work, and making sure your game runs on Linux.

Studio Wildcard creative director Jesse Rapczak, whose studio is responsible for one of Steam's major successes, *Ark: Survival Evolved*, said there are both pros and cons to the system.

"Linux-based hardware like the Steam Machines takes away some of the uncertainty behind hardware and software configurations," he said.

// MEANWHILE ON DEVELOP-ONLINE.NET

Grin founder on overambition and selling Woolfe: The Red Hood Diaries
deve1op.net/1M7MLIm

Gram Games on copycats: 'Imitation is the best form of flattery'
deve1op.net/1M50YG7

Does Assassin's Creed Syndicate learn from Unity's mistakes?
deve1op.net/1GjIQWL

THE LINK TO SUCCESS?

AS WELL AS its Steam Machines, Valve is also releasing the Steam Link. The tech enables users to stream their PC or Steam Machine session to any television screen or monitor in the home. It's a cheap alternative to get your games in the living room if you don't want to fork out for another expensive machine, but already own a PC. Newell also has a longer-term view for the hardware, however.

"What I think is probably the logical result is, that Link gets built into monitors and TVs," he said. "It's just a really general purpose interface that [manufacturers] could use for anything that requires high performance, low latency, interactive connections.

"They've been really good at adding a couple of hundred milliseconds latency, so you could do visual processing, and we're kind of saying that's great if you want to make my television show look like a movie, but it does horrible things to my gaming experience. This is something that you can support. We'll just give that away."

"Otherwise, developing for Linux is all of the bad parts about console development with all of the bad parts about PC development. Everyone on the team across disciplines must create a special build of the game and run it on a different operating system that is not their primary workstation to check their work."

Garry Newman, owner of *Rust* and *Garry's Mod* developer Facepunch, said the Unity engine means its games will work on Linux "with pretty much no issues". There are some issues for Unity developers, though.

"The only problem we've come up against is that the Unity 'select resolution' dialog that pops up isn't really compatible with Big Picture mode, so we've got to move all that crap in-game," he said. "I'm sure that will hit a lot of Unity developers."

Newman added that the hardware's unique gamepad "is pretty awesome" – or, at least, the software for it is.

"We haven't even done anything to support it yet - and it works. Which is pretty amazing considering Rust has no gamepad support at all."

WILL YOUR GAMES SELL?

Development might be a smooth process for many, but it remains to be seen if consumers will adopt Steam Machines. Asked bringing games to SteamOS, Rapczak admitted there's a chicken-and-egg problem.

"If there are no games available that people want to play, there is no reason for them to buy that console," he explained. "No customers means there is no reason to develop games for said console.

"That being said, we're seeing more game streaming services spinning up on non-Windows platforms. On top of that, Steam's 'buy-once-play-anywhere' model is future-proof, so people aren't buying into a single piece of hardware so much as an ecosystem that is already the market leader."

> ***"It'd be ace for Valve to offer some incentive to smaller devs."***
>
> Dan Marshall, Size Five

Newman said Steam Machines open new potential avenues for developers.

"We might have been put off making games that are tailored to TV/controller before because of all the stupid bullshit you had to go through to get a game on a console," he said. "But now we might be thinking 'this makes it easy, let's make that console-style game we were taking about'.

"Whether it's worthwhile to make a game primarily aimed at SteamOS is debatable. It's definitely worth including it in your plans."

Size Five Games developer Dan Marshall, who most recently worked on The Swindle, said issues that remain for devs who work on their own or in small teams.

"As a small indie developer with limited time and resources, spending these early days hacking things about isn't really something i can invest in," he said.

"It'd be ace for Valve to offer some incentive to smaller devs to take that risk away a little bit. For now, I'm sitting on my hands and I'll leap to it as soon as it feels sensible to do so."

Whether Steam Machines can dethrone consoles as the gaming machine of choice in the living room remains to be seen. But it's clear devs are happy with the proposition, from a development view at least.

Newell, of course, is confident in his own plans, believes consumers will be happy too.

"Each person is going to have a different set," he said. "Personally, i'm going to buy really ridiculously expensive pcs for everything. Because I'm stupid.

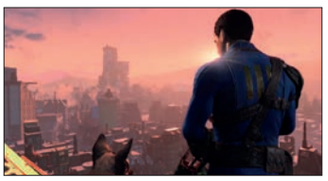
"Other people are going to be perfectly happy with something that allows them to take one device and spread it across the presentation surfaces in their home., [Their] televisions and monitors. So it's up to each person to decide what's best for them." ■

DEVELOP DIARY

Your complete games development events calendar for the months ahead

AT A GLANCE

NOVEMBER 5TH
Guy Fawkes Night
Celebrate his legacy by reacreating his body and throwing it on fire.



NOVEMBER 10TH
Fallout 4
I don't want to set the world on fire. Supermutants, however…

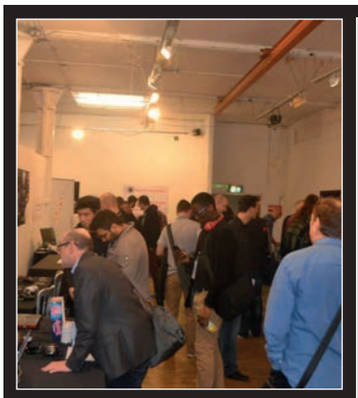
NOVEMBER 12TH
Interface
Channel 4, 505 Games, Kiss and more all looking to sign games.

NOVEMBER 19TH
Star Wars: Battlefront
Remember when Vader teabagged Luke Skywalker? Nope, neither do we.

NOVEMBER 20TH
Mockingjay: Part Two
Jennifer Lawrence's final stint as a cooler Legolas.

NOVEMBER 30TH
St Andrew's Day
Celebrate the patron saint of golf (is that right?).

DIARY DATES



Interface
November 12th
London, UK
www.interface.events

NOVEMBER

NGDC 2015
November 5th to 7th
Pune, India
www.nasscom.in/ngdc2015

BLIZZCON
November 6th to 7th
Anaheim, USA
Us.battle.net/blizzcon/en/

VRTGO CONFERENCE & EXPO
November 12th
Newcastle, UK
www.vrtgo.co.uk

MIGS
November 15th to 17th
Montreal, Canada
www.migs15.com

APPS WORLD EUROPE
November 18th to 19th
London, UK
europe.apps-world.net

LONDON GAMES CONFERENCE
November 19th
London, UK
ctallon@nbmedia.com

GAME DEVELOPERS SESSION
November 27th to 28th
Prague, Czech Republic
www.gdsession.com

ICIDS 2015
November 30th to December 4th
Copenhagen, Denmark
icids2015.aau.dk

EVENT SPOTLIGHT

LONDON GAMES CONFERENCE

LONDON GAMES CONFERENCE will return on November 19th, this year focusing on the role of video in the games market.

The acceleration of video as a platform for promoting and selling games has been breathtaking. LGC 2015 will focus on how video can be used to drive game sales.

Our speakers and panel discussions will look at it from all angles, such as:

- How to design games with shareable moments
- The ethics of working with influencers on video platforms
- Best practice for video across console, mobile and PC
- The legacy of broadcast television – is the audience still worth having?
- The rise of eSports and what you can do to capitalise on the audiences

"The acceleration of video as a platform for promoting and selling games has been breathtaking."

- What makes a great games trailer
- How you can drive views of your video assets

Tickets cost £249. You can book your place now at **bit.ly/1KPUC7r**.

If you are interested in speaking at this year's LGC, please contact Chris Dring at **cdring@nbmedia.com**. For sponsorship, email Conor Tallon at **ctallon@nbmedia.com**. ■

COMING SOON

DEVELOP #167
DEC 2015/JAN 2016

- Recruitment Special: Helping you find that ideal job in games
- Develop 100: We rank the best games studios across the globe

DEVELOP #168
FEBRUARY 2016

- 30 Under 30: Profiling the hottest new emerging talent in the games industry
- Develop Salary Survey: How much are you worth?

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For advertising opportunities, contact cnangle@nbmedia.com

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DEV15

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Variable declarations

//COMMENT: INDIE

Planning to dream

SuperData's Joost Van Dreunen on the indiepocalypse and planning your game's development

Joost Van Dreunen believes properly planning out development and how you'll support yourself is key to going it alone, and it's a philosophy echoed by Vlambeer's Rami Ismail (main)

LAST MONTH, THE now-infamous Rami Ismail from Vlambeer preached fire and brimstone to an audience of aspiring games developers.

His talk "How to survive your first indie game for dummies" took aim at the myriad of aspects involved in making, marketing and publishing a game and the degree to which many developers underestimate the necessary commitment. Rami took a sobering look at the realities involved in games development and the insecurities and obstacles that developers face.

The industry needs indies, of course, because it needs a constant supply of innovation. Large publishers who seek to mitigate risk and optimise their financial returns often display a more conservative company culture than a budding indie shop.

Succinctly, this agility and freedom is what allows indies to explore aspects or come up with new ideas. Many of today's most popular games started in someone's bedroom or garage. Games like *League of Legends* and *Counter-Strike: Global Offensive* were off-shoots developed by modders.

The difficulty, it seems, lies in the fact that most creative processes are borne from an emotional place. You find yourself inspired, swept away by, or violently against a thing or thought in the world. You grab a pen, a brush or a keyboard and jump into the current.

At least to some degree this is what most of my students tell me when I ask them. What motivates them tends to be deeply personal and they seek to express how they feel through their designs and the worlds they create. And as long as you can tinker during off-hours, or spend the weekends toiling over the minutia of the main character or a particular element in the game, it can be an uplifting and fulfilling experience. It is really when they want to do this professionally that game developers run into problems.

FINDING INSPIRATION

There is a substantial difference between jogging around the park on the weekends and winning Olympic gold on the 100 metre dash. The difference lies in the routine, or rather the rationalisation, that precedes the success. A professional athlete doesn't just go for a run in the morning and then compete on the weekends. These people rationalise every relevant aspect ranging from counting their calories to finding the ideal outfit, identifying their weaknesses, spotting the competition and its strengths, organising transportation to and from the contest, wooing sponsors and so on.

Of course, most of the indies that have considered quitting their day job are aware of the fact that their pursuit isn't easy

What's odd, however, is that they turn on themselves in the process. Whenever we'd practice pitches in which students would lay

> ***"There's a willingness and misconception for indie developers to remove themselves from the equation."***

out the underlying business plan that was going to incubate and sustain their creative vision, they'd all assign themselves to eating ramen for the years to come. Their strategy was to keep costs as low as possible to buy themselves as much time as possible.

In this case, that meant eating what they thought would be the cheapest type of food. The key here is the willingness and misconception to remove themselves from the equation. As if to say that they don't matter.

By making games you are investing in yourself, in the same way that you must meet your own needs when pursuing an Olympic dream. You have to think bigger than just focusing on the specifics of a game mechanic or aesthetic. What type of organisation does this project require? How do we best meet the demands of the ultimate vision? By stepping out of the trenches for a moment and getting a sense of the larger landscape, you'll find that drawing up a rationalised plan will answer many questions at the onset and carry you at those moments when you run low on inspiration.

Certainly, in this crushing creative process you set yourself up to agree to pretty much anything once a publisher offers you a deal. Exhausted, frustrated and tired from the journey, you'll take shelter anywhere just to catch your breath. But by then you may have surrendered your dream.

If nothing else, the indie development scene has become larger in recent years. Rationalising your efforts will help you as you progress in your career. Rami, as usual, is right in that you will have to try and try again. So make a plan. Write on a single piece of paper in as few words as possible how, exactly, you plan to get from A to B. Figure out how much time and money you need. Decide what your milestones will be. Draft a budget. Practice your pitch.

It won't guarantee success, but it could save your dream. ■

Joost van Dreunen is co-founder and CEO of SuperData Research, provider of relevant market data and insight on digital games and playable media.
www.superdataresearch.com

//COMMENT: INDIE

The curse of 'indie'

Debbie Bestwick explains why the term 'indie' could hinder your chances of success

I FIND WRITING this specific column difficult. We soon celebrate our 25th anniversary at Team17 and we will also celebrate our most successful year to date as a business.

I should be happy, but I'm not. I'm concerned for indies.

When I started our third-party label, I wanted to disrupt the traditional 'publishing model' our industry had grown used to. It was out of date, it hindered creativity and, truthfully, had left me with my own fair share of horror stories over the years. Now it's become the very essence of who we are as a company, and hopefully we are helping make the world a better place for our fellow games makers.

It's for this very reason, I've chosen to focus on an area I strongly believe is now hindering your business if you are an indie today.

These days, commercially, indie games fall into two areas for me. Those with 'full priced' sales below 10,000 units per platform have 'failed', whereas titles that have six and seven-figure unit sales per platform are 'successful' and, hopefully, sustainable in the long-term.

How many of you have asked yourselves recently why X or Y platform is specifically showing massive sales fatigue, despite a very strong install base? Or why your month one sales are low, despite amazing press awareness, above average Metacritic and high-profile platform/distribution store visibility? Yes, lots of you.

INDIE PERCEPTIONS

We can all blame platform and distribution subscription programmes, Greenlight, triple-A publishers' digital catalogues, bundles, discoverability, press coverage and a dozen other factors. But could it possibly be that your game just isn't good enough? Or do gamers see the vast majority of indie games as low worth, low quality or something they will pick up when they're cheap or free?

It looks as though we've hit a point where the vast majority of gamers see indie as something that's either cheap, portrays low production costs, doesn't deliver anything new or that you as a developer are relying on the 'indie' tag that, let's be honest, is over used.

The next 24 months are going to be worrying for indie games makers – and with them, publishers and games labels – as even past successful teams will struggle to replicate previous success. We've already seen numerous examples of this so far this year. Some may say it's second game syndrome, but let's look at the bigger picture.

Just being a good game isn't enough to succeed today. You should look incredibly closely at the games you are making right now and ask yourself, being brutally honest: why are you making this game?

This is the time for every games maker to fully understand just what 'unique selling point' means. Sorry for sounding like a publisher, but this is important: slightly better graphics, faster frame-rate, more levels, and a better soundtrack than game X doesn't give your game a USP.

As a label, we have been planning for a while to ensure that both 2016 and 2017 are equally successful years and, as a result, hard decisions have been made specifically regarding the games that will be released under our banner. It's been incredibly hard for me both personally and professionally, as I want to help as many developers as possible. PlayStation's Shahid Ahmad told me at the start of this year that the hardest part of my job would be saying no to developers. He was right: it hurts.

Obviously these tough decisions do not mean gems like *The Escapists* won't have a chance to come to market. But they will be supported by strong finances, great marketing and professional development support from our Label team to give them the best chance of success.

As much as I dislike that 'P' word (publisher), the 'I' word (indie) is getting very close. In fact, we believe 'indie' is hindering our chances of success and so, as of now, Team17 will no longer use the word 'indie' directly in any of our sales or marketing activity, unless one of our partners wishes it to be that way on their game.

Our development ethos, however, shall remain as it always has been: indie as in independent. ■

Debbie Bestwick is CEO and one of the founding members of Team17. She pioneered the firm's leap into digital publishing.
www.team17.com

Team17 started its third-party label to 'disrupt' the traditional publishing model, but further transformation is needed at the company to meet shifts in consumer behaviour, says Debbie Bestwick

//EXTRA CONTENT ONLINE

"It must be something that will benefit your industry as a whole and not just you."

What projects get public grants?
deve1op.net/1Lt2Lo4

"Don't version just code, but tools, builds and everything in your version control system."

Ensure your tools help not hinder
deve1op.net/1Q1a58j

"Analytics and metrics are essential to making a polished game, VR is no different."

Tracking user behaviour in VR
deve1op.net/1NjDo8s

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BETA

DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

CHOOSING THE RIGHT PUBLISHER:
We speak to the experts about finding the right partner for you
P17

INSIDE BEENOX:
Develop takes a trip to Quebec City and visits an Activision studio in transition
P20

STUDIO SPOTLIGHT:
We chat with Dontnod's CEO about what it's like to work at the Life is Strange developer
P27

Taken for Granted

It's easy to assume securing finances for your exciting new game project is prohibitively complex. But as numerous experts tell **Will Freeman**, there's plenty you can do to find your way through the funding maze

WHILE WE ABSOLUTELY live and work in the era of accessible game technology, for most professional projects, simply reaching an audience means spending more than a penny or two.

Securing cash can be bewildering, intimidating and time consuming, of course. So how do you pick and secure the method of funding that best matches your game and studio?

To understand how best to approach securing funding, it's first important to know how the relationship between the games industry and the hands at the purse strings has evolved. The medium has perhaps been defined by diversification more than any other trend in recent years, as gaming's audience, platform spread, studio models and subject matters have all continued to expand in their make-up. And it's a change that is going well for games.

"There are so many directions the industry is moving in," asserts an optimistic Jaspal Sohal, head of games and digital at UK not-for-profit creative industries support body Creative England, which facilitates various funding opportunities for games makers.

"Then, when you then start to look at the numbers both in terms of audience and market value – often exceeding other entertainment sectors – suddenly everyone from policy makers to investors and creatives are getting excited about what the games industry represents."

And the power of that diversity doesn't just mean more money in a single pot. Things may be more complicated as a result, but, through necessity, those interested in funding games have had to reflect the industry's knack for variety, meaning more options for games makers.

A RUN FOR ITS MONEY

"Firstly, games and studios being so much more diverse now has meant that there are more diverse options for funding," confirms developer and consultant Ella Romanos, who has experience of the full remit of making games through to supporting developers applying for funding.

"Ten years ago, budgets were high, barriers to entry were high – [due to] closed platforms – and risk was high."

Now, of course, the aforementioned diversity is everywhere, from budget size to the make-up of the game-playing demographic.

"This provides much more opportunity for different funders to enter the market, and to take different amounts of risk," adds Romanos. "This change has also meant that developers can stay in control more. With smaller budgets and open platforms, they can get their games to market without relying on anyone else."

Whilst that doesn't mean those developers don't need funding and support in other areas, such as marketing, they are today, offers

Top to bottom: Strike Gamelabs commercial director Ella Romanos and Creative England head of games and digital Jaspal Sohal

Top to bottom: UKIE CEO Jo Twist, Pollen VC CEO Martin Macmillan and London Venture Partners' Paul Heydon

Right: Payload Studios used crowdfunding and Early Access to support development of TerraTech

Romanos, in a better position to negotiate. That in turn opens the doors to huge variety of options in terms of how third-parties become involved with the development of a game.

"This has meant that funders have also evolved to suit this new need – some provide funding only, some provide marketing only, some get involved from day one, some only get involved once the game is almost at market," she says.

With options, though, comes choice, and when it can feel like you're betting your game and business on the funding model you pick, making the decision is rarely easy.

DEVS CAN BE CHOOSERS

Fortunately, the solution to the dizzying array of choice is a simple one, even if it must be balanced against the cost of time to market and the potential for a project to sit in limbo.

"The best approach is to do your research thoroughly into the options that are available to you," advises UKIE CEO Jo Twist. "Carefully think about where you want your business to be in six months, two years, five years' time, and look at the funding method that will get you there."

Your business model, states Twist, can also inform what options your team may pursue.

"Small and micro start-up studios will benefit not only from the financial assistance of the new [UK, public] Games Fund, for example, but also from the mentoring and business skills that will be invaluable to a young company," she adds.

In the UK at least, funding offerings exist for all studio sizes, with everyone from new micro studios to established triple-As eligible to apply for video games tax relief, if they pass the required 'cultural test'. Some 90 games have already received interim or final certification as of June this year, and, says Twist, benefits to the wider industry are already being seen, with studios able to hire more staff as a result of the funding, and to secure loans against confirmed tax credits.

"This model is common in the film industry and we are seeing more companies now focusing on this kind of financing for games businesses," Twist says. "Always look at the R&D tax credits if you are doing anything technically that you think could benefit from that relief – but get advice if you intend to get your video games tax relief too – you can't claim on the same costs."

Romanos also echoes Twist's suggestion of taking time to carefully narrow down the field of funding options.

"Whilst there are a lot of funding options out there, they mostly have quite specific remits, and therefore by understanding those you can quite quickly narrow down to a small set of options that are suitable for you at any point in time," she states. "The challenge is in gathering enough information to understand each fund or type of fund enough to do that."

FOLLOW THE CROWD?

There's remains another option, though. And while it's transgressed from headline hogging sensation to a more quietly established platform, crowdfunding remains a tempting option.

"Crowdfunding is definitely still a viable and relevant option for games companies, especially in doing that early signal test for potential audiences," says Twist. "Just this year, Playtonic's *Yooka-Laylee* reached its crowdfunding target of £175,000 in 40 minutes and has gone on to raise over £2m from over 73,000 donors."

And crowdfunding is no longer limited to Kickstarter, with the approach enjoying it's own diversification. Now platforms use crowdfunding to support loans and provide equity-based investment. Again, crowdfunding is a place with no shortage of variety.

It may sound so simple to as to be absurd, but taking the right approach to funding also means understanding what you want to fund, and there are many stories of developers missing an opportunity as they solely focus on their game.

"The game is just the start and I still think a lot of developers overlook this," confirms Creative England's Sohal. Often, in his experience, developers leaving behind a staff role at an established outfit to go it alone can begin to think with a little too much focus on just their game.

"There is an entirely unique skill set they need to acquire and that's all about managing the business plan and delivery model," Sohal says. "It's surprising to me how many veteran developers still take the view of 'we'll release it and see what happens'.

> ***"It's surprising how many developers still take the view of 'we'll release it and see what happens'."***
>
> Jaspal Sohal, Creative England

"I can tell you what will happen right now – nobody will know about it and nobody will care. Managing the non-development aspect of a game requires as much attention as the technical and creative aspects and it's often overlooked."

And if you're looking for private investment from VCs, angels and the like, the message is even more stark.

"We invest in companies, not games," affirms Paul Heydon, partner at London Venture Partners, a seed fund focusing on the games sector. "We look to back the best founders with big ambition. We bring many years of experience, long-standing relationships and a track record of success unmatched by any other team in Europe."

And Heydon has some advice born in the very heart of that experience.

"Really think through why you believe you will be successful, and what are the reasons you might not be; how are you dealing with those?," he said.

That should give you plenty to go on, if as you read this, you're considering your route to funding success. But if you're longing for more, over the page you'll find dozens of tips from every space in the games industry, offering a bounty of insights into approaching the funding maze, and making your way through to the exit, hopefully with studio ready to grow.

THE MOBILE REVENUE GAP

MOBILE GAMING MOVES fast, and its audience's familiarity with choice and free content has bred a wildly accelerating sector. Promotion, famously, can be pivotal in that context.

But that has created something of a revenue gap, as Martin Macmillan, CEO at Pollen VC, knows well. Its platform lets users directly fund user acquisition campaigns on ad networks with earned revenue they haven't yet received.

Marketing a mobile game, of course, costs money.

"However most independent developers don't have a stash of cash reserved for marketing, and even if you do have some budget to guarantee a strong launch which generates significant revenues initially, it's difficult to sustain without more paid user acquisition," explains Macmillan. "We learned from experience that you could be waiting anywhere between 30 and 67 days for the app stores to pay out revenues."

It's an experience Macmillan knows personally from a former life launching a music remixing app.

"Like many indie developers, we were restricted to using credit cards to pay for install ads, which meant we were always limited in how much we could spend, and it was very unwieldy having to constantly top up and pay down."

Pollen VC offers one means to pass that period, before game revenues start to fund a title's promotion costs. The gap is a quirk of app revenue payment that some developers fail to foresee, and whatever your means to address it, preparedness is key.

FINANCIAL ADVICE

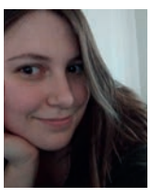
Developers, publishers and more share their game funding top tips

APPROACHING FUNDING

Before you've chosen the method for your studio…

■ Talk to other developers who've accessed funding – you never know where the good connections might come from, and games developers are generally very supportive and happy to connect you with people who have been helpful to them in the past.
James Carroll, Director, Evil Twin Artworks

■ When considering funding opportunities, particularly if you're a very small team, be sure to properly consider the administrative overheads involved in that particular grant. Such requirements may turn out to be very costly.
Stephen Caruana, Lead Designer and Developer, Pixie Software



■ Have material ready to show off to potential investors, scholarship committees, etcetra. This means keeping your press kit up to date with all the best screenshots and gifs. You want to present the best possible picture of your project at the drop of a hat.
Christina Kalinger, Producer, Retro Yeti Games

PUBLIC GRANTS AND FUNDING

Funding from government, trade body and regional organisations

■ Explore emerging technologies. Teaming up with emerging technology or platforms can be advantageous. If you can provide the kind of content needed to effectively showcase these new products and solutions, it's possible to receive advance fees to cover your development costs.
Marianne Lerdahl, Project Manager, Sarepta studio

■ Make sure you seek out funds tailored to games companies' needs when applying for grant funding – too many of them have come from the film sector and they've simply swapped the word 'film' for 'game'.
James Carroll, Director, Evil Twin Artworks

■ It's important to understand and establish how your project fits into the selection criteria of the fund. Are the goals and values of the fund and your project well aligned? You need a compelling answer to that question.
Andreas Zecher, Business and Development, Spaces of Play

■ When applying for a grant from the EU's MEDIA Programme work with your local Creative Europe Desk. They can be your translator for the confusing EU terms and definitions.
Peter de Jong, Co-founder and Director, Codeglue

■ We received a grant from the Creative England Gameslab fund which made *Bertram Fiddle* possible. Get in touch with organisations and build relationships with them. They are there to help and actually want to give out money.
Seb Burnett, Creative Director, Rumpus Animation

■ Sometimes it helps to look outside your field for governments; ICT, R&D and film all provide things that are related to games.
Izzy Gramp, Founder, Geeiz Games

■ The jury or analysts that decide whether or not your game gets a grant have different goals, expectations and vocabulary than the rest of the industry. Before sending an application, get in talks with them, learn their language, their mission as an organisation and present things that is in line with their position.
Guillaume Boucher-Vidal, Founder and President, Nine Dots Studio

■ We used SEIS to gain some funding post-Kickstarter, since we are working with a new tech platform – VR – and can take advantage of the UK government scheme to encourage investment in start-ups in this area. Bare in mind it only goes up to £150,000, so plan within these limits or ensure you have other funding paths available.
Sam Watts, Game Producer, Tammeka

PRIVATE FUNDING
Attracting the funds of angels and VCs

■ Don't pitch a plan that stops at global launch. Venture capitalists are smart, they know that it takes time for a game to build an audience and having a well thought out post-launch strategy is not only key, but shows that you too understand how the industry works.
Jesse Divnich, VP of Product Strategy & Insights, Tilting Point

■ As a games start-up you're much more likely to get funding from angels than VCs. Focus your efforts on finding a group of investors who can make their investment under the SEIS scheme. VCs are mostly looking for evidence of traction and repeatable business models – i.e. not games.
Alex Fleetwood, Game Designer and Creative Director

■ Your VC has most likely invested in you and not your game. Don't worry about project changes or pivots; worry about communicating them well.
Erlend Grefsrud, Game Designer, BiFrost

■ You need a business. Most angels and VCs want to invest in game developers that can make their game or studio a business. Simply wanting to make a one-off game is not going to be easy to pitch as it carries too much risk.
Alexander Bergendahl, CEO and Game Director, Poppermost Productions

■ It's very natural to feel one isn't ready to apply for some things or wouldn't be a good fit. But really, as cliché as it is, the worst that can happen is someone says 'no'. While you are trying to get your game going and find funding, you have to seek out every opportunity you can and seize it.
Simon Ashbery, Lead Artists and Designer, Rosvita Works

PITCHING RIGHT
Tips for nailing your presentation

■ Be prepared with business plans, clear content design and delivery plans, realistic expectations and ideally, experience of having delivered a game before. Showcase why they should get excited and join you for the development ride with minimal risk to them.
Sam Watts, Game Producer, Tammeka

■ Going in – I couldn't have had a warmer experience for something that I heard from places was daunting. The biggest surprise was that the reviewers seemed to want you to do well – which I guess now sounds quite obvious.
Izzy Gramp, Founder, Geeiz Games

■ Going to industry networking events is a great way to meet potential investors in an informal, less stressful environment, long before you have to do the big 'be all and end all' pitch. It's also a good way to rule out potential partners if you don't seem like a good fit – before you've put lots of time into it.
James Carroll, Director, Evil Twin Artworks

■ Find every way you can to start negotiating organically, rather than having to go through the official channels to pitch. So many others have passed before you through the front door and you have to compare favourably against all of them.
Guillaume Boucher-Vidal, Founder and President, Nine Dots Studio

■ When pitching your game to a publisher, get straight to the one message you want to get stuck in their heads; what makes your game great and how can they get involved in creating it? Also, prototypes speak louder than words.
Peter de Jong, Co-founder and Director, Codeglue

■ Build a great deck. Your pitch deck is extremely important and is what gets sent around to the friends of people you talk to. Make sure it's not overly detailed but still conveys what you're building. Make sure it's short enough to read through in a few minutes and spark enough interest to schedule a meeting or call.
Alexander Bergendahl, CEO and Game Director, Poppermost Productions

■ Are you a safe bet? Your funder is very unlikely to be able to assess if your game will be a success, assuming you are competent. Thus they'll look at your business plan, cash flow and management team instead. Ensure it is good.
Mike Hawkyard, Managing Director, Amuzo

■ You should be able to pitch your idea convincingly in 30 seconds. If it's not working, practice. If it still isn't working, try a different idea.
Russ Clarke, Founder, Payload Studios

■ Be sensible with your numbers - especially in terms of potential marketplace and revenue. Saying things like 'if we can get one per cent of the market' is a sure warning sign to people that you've picked a value out of the air rather than doing your homework properly.
Tony Gowland, Consulting F2P Game Designer, Ant Workshop

SELF-FUNDING
Paying your own way

■ Reducing your time to market also reduces upfront cost. The Early Access model allows you to generate income while still working on the game – but you have to commit to regular maintenance and communication with your players.
Russ Clarke, Founder, Payload Studios

■ Remember that it takes the platform operators up to 60 days to pay you after you've earned revenue. Developers need to plan to have that extra runway after global launch.
Jesse Divnich, VP of Product Strategy & Insights, Tilting Point

■ How grand does your game need to be? Will it work if it is released in installments so that you can get an income stream coming in as early as possible?
Seb Burnett, Creative Director, Rumpus Animation

■ Run a consulting business that leverages your game technology expertise to offer solutions to industries outside of gaming. Doing this will put you in direct competition with companies focused solely on those industries, so it is only worth the risk if you can perfectly link your current game development with the consulting work.
Catharina Due Bøhler, CEO, Sarepta studio

■ I've done revenue share deals with artists and musicians, which keeps initial costs down. It's also worth considering part payment and part revenue share which reassures contractors, as at least they've got some money up-front.
Jake Birkett, Director, Grey Alien Games

CROWDFUNDING
Kickstarting your game with the crowd

■ The amount of your game that you show in your crowdfunding pitch should be inversely proportional to your experience and reputation as a games developer. Famous devs can raise money with not much more than a concept, some artwork, and a promise. For the rest, you need to show and tell a lot more.
Sam Dalsimer, Senior PR Manager at Tilting Point

■ Try to delay your crowdfunding campaign for as long as possible – backers are looking for projects that are 80 to 90 per cent complete. But don't be completely ready to launch – people also want to help you on the last leg of your journey.
Alex Fleetwood, Game Designer and Creative Director

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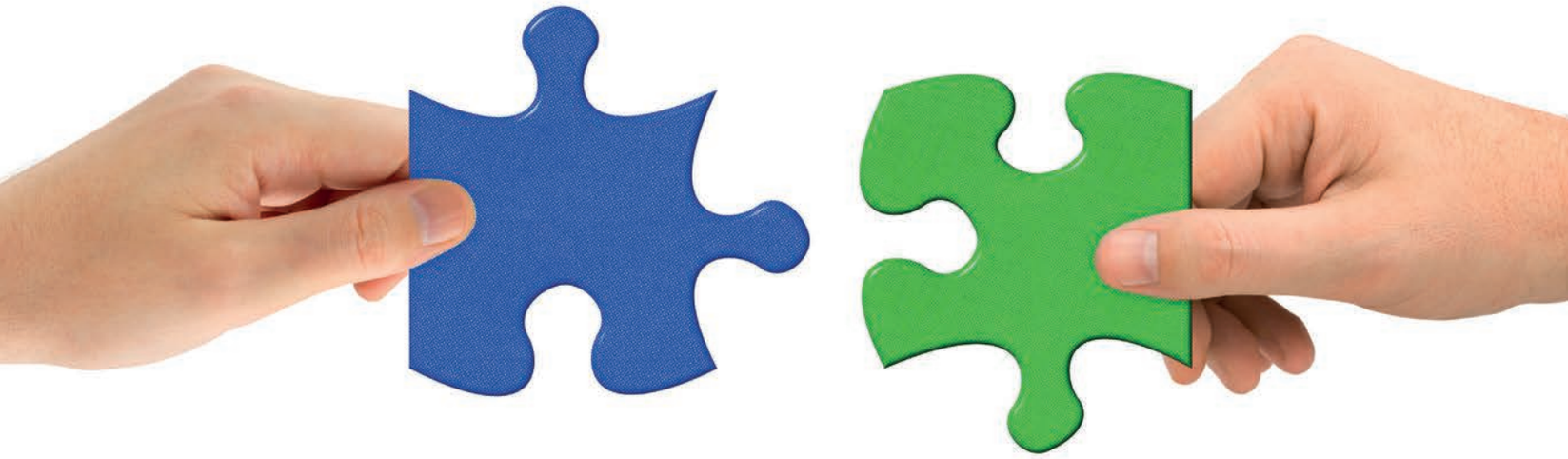
SIDE



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The right publisher for you

With evermore publishers vying to sign a deal with you for your game, **Craig Chapple** uncovers just what developers should look for when identifying a partner, and how they can go about making the perfect pitch

THE LAST COUPLE of years have seen the rise and rise of the indie publisher.

Barely a month goes by without the announcement of a new publisher that promises to help you get your brand new game off the ground and market it to a discerning audience.

It can be critical, of course, to get support for your game's release, or find the right company to help fund development of your innovative and exciting new idea. But in a market increasingly full of publishers like Devolver Digital, 505 Games, Team17, Curve Digital, Kiss, Versus Evil, Sold Out, Green Man Loaded and more, how do you find the right publisher for you?

As far as the basics go, Team17 MD Debbie Bestwick, whose company has helped indie hit *The Escapists* make some $10m, says the most important thing is to make sure a publisher adds value. This can range from media, marketing, sales, backend testing, localisation or console submissions, through to helping add polish with additional development resources.

VALUE-ADD

"If any publisher you are talking to can't add value, simply walk away," she says.

Curve Digital publishing director Simon Byron adds that some the basics can include anything to do with submissions, certification, support, PR, marketing and community support. Depending on the agreement, this may also include development support too, either creatively or financially.

But there's a lot to look out for when taking part in those tricky negotiations. And it's important not to get taken advantage of.

"Check out the people you intend to work with, ask around and question the developers who have worked with them – did they pay on time, and did they deliver?" says Sold Out business development director Garry Williams.

> ***"Avoid any publisher who seeks your IP or shares of your company as part of any deal to get to market."***
>
> Garry Williams, Sold Out

"Avoid any who seek your IP or shares of your company as part of any deal to get to market. Ideally look for publishing support that can be turned on and off like a tap – as and when needed. Be certain that the publishing partner can add value to your game with lifecycle management skills and genuine publishing support."

Byron says developers should also look out for how a publisher reacts to a game that performs poorly after release. After all, not all games will sell well from the off.

"Sure, we all want our games to sell as well as they can – but you need to know that if things don't work out initially, that there is a longer-term plan beyond a shrug of the shoulders," he says.

TOUGH TALK

He adds that during negotiations, developers should be prepared. Know what you're asking for and what you're willing to accept. He says that a good publisher shouldn't need to go out their way to make sweeping demands to convince you to sign, while also warning devs to be wary of anyone putting on time pressures.

505 Games global brand and marketing SVP Tim Woodley says another thing to make sure you ask your potential publishing partner is about their relationships with platform holders and digital marketplace leaders, like Valve, Apple, Sony, Nintendo, Microsoft and Google. Making sure your publisher has close ties with the major players on your target platform is crucial.

"They are the new 'retailers' and getting front of store is no less important now than it was when we were selling boxes into Walmart, Tescos or Micromania," he explains. "Ask your publisher about their relationship with the relevant first-party retailers, how often they meet and their approach to 'selling-in' their titles."

Top to bottom: Kiss head of marketing David Clark, Team17 MD Debbie Bestwick and 505 Games global brand and marketing SVP Tim Woodley

Main: The Escapists

Garry Williams of Sold Out (above), which helped bring Rebellion's Zombie Army Trilogy (main) to market, says providing a good prototype can help with early planning for the game's marketing

Making sure you know what you are looking for from publishers is only part of the preparation, of course. Developers need to deliver a successful pitch for their due diligence on the right partner to matter.

Bestwick says developers need not always worry too much. If the game is good enough, it will always get a deal. But she has some useful tips to keep in mind.

"The best advice I can share is please research the game you are making," she says. "Look at every similar game and know why your game is going to stand out above what's in the market now and also at the time your game will actually be released."

SELF-BELIEF

Williams believes developers need to show not only a great game and clear enthusiasm for the project, but also evidence of clear preparation and planning.

"Although things like SWOT (Strengths, weaknesses, opportunities and threats) analysis start to sound boring, an idea of why you have a passion for a genre, how you intend to deliver the project and your plan to place this game in front of consumers are all really helpful," he explains.

"It may sound basic, but too many people get caught up with the 'concept' and the thoughts of their peer group, and spend too little time considering schedules, costs, marketing and planning to reach market with impact."

Kiss head of marketing David Clark says he wants to understand as quickly and as easily as possible exactly what the game is about and what sets it apart from others.

"If we can't work it out, then how will the customer?" he says, adding that sending across a 400-page design document will only highlight how good you are at writing, "but not a lot else".

"Keep it short – it forces you to focus on the key details and removes the unnecessary background info," advises Clark. "Obviously a build of some kind is essential and we react best to enthusiasm and originality."

> ***"Keep your pitch short – it forces you to focus on the key details and removes unnecessary info."***
>
> David Clark, Kiss

It's important to note that publishers receive pitches of all shapes and sizes every week. Woodley says that 505 Games often evaluates a project according to where the team has originated.

If it's a larger team, its expectations for a thoroughly prepared pitch with a high level of detail are greater. He says, however, that the publisher understands how new and lone developers may not have the experience to deliver the perfect pitch, so expectations for this stage of proceedings may be lowered.

"For smaller, micro-studios – say at *MCV* and *Develop*'s Interface events, for example – quite often we're talking to people who have no experience or expectations as to how publishing even works," he states. "We will help them get their pitches into a better state for the official greenlight discussion by asking them some of the questions which perhaps they haven't considered."

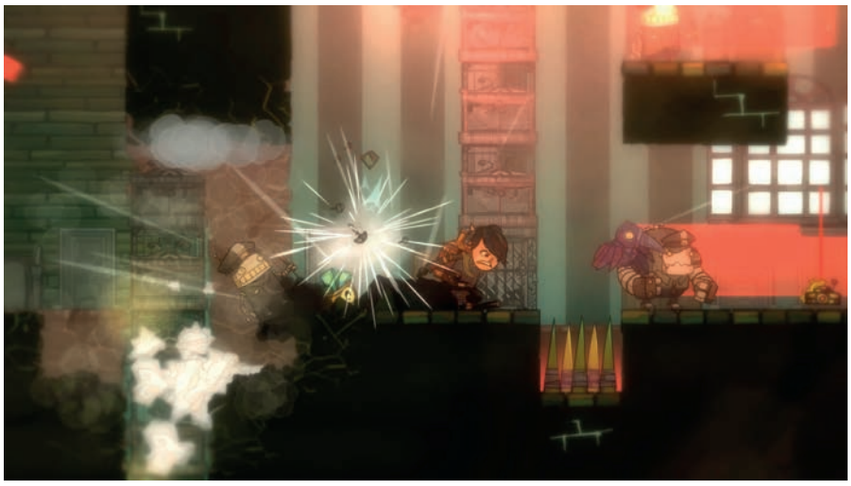
THE RIGHT TIME

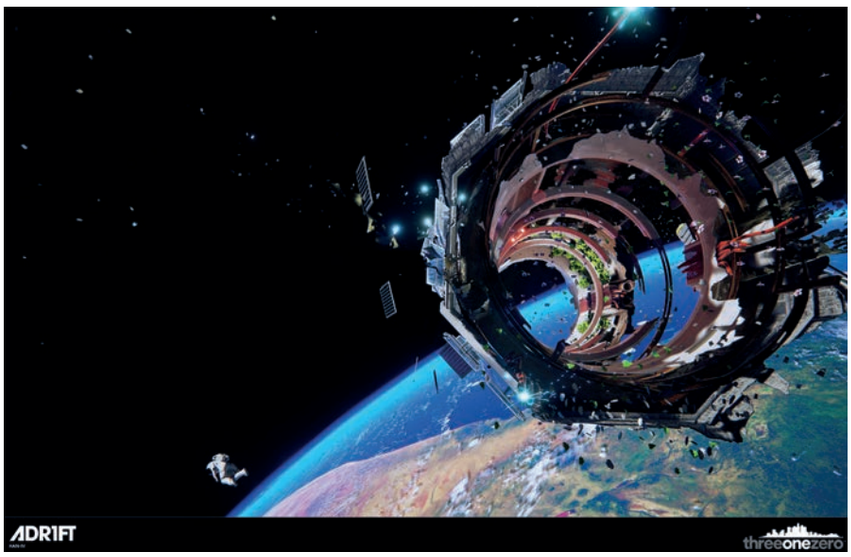
Not all publishers may be so understanding of a poorly delivered pitch however, so reading up on advice given here or asking for it yourself may be a smart move before commencing discussions for that all-important deal.

But once you've done your research on publishers, and understood the pitching process, when is the best time to approach a potential partner? The answer seems to differ between publishers – another reason why it's important to spend time finding the best fit for your unique requirements.

"Even though I've been known to sign a game based only on screenshots and a vision, ideally we would always like to see, and more importantly, play, code, even if it's a just a working prototype rather than a polished level," says Bestwick.

"Other important things to bring to the initial meetings are details of your production vision and detail of the team you have in place – the team is as important as the game being made."





INTERFACE WITH PUBLISHERS

ON NOVEMBER 12TH, developers across the UK will get the chance to pitch their games to a host publishers looking for the next hit.

Brought to you by *Develop* and our sister-publication *MCV*, the London-based event combines advice, private pitching, conference sessions, games showcasing and more. May's event saw some 300 games professionals attend and a number of deals signed between developers and publishers who met on the day.

So far meeting hosts at the event will include 505 Games, Sold Out Sales, Channel 4, Kiss, Green Man Gaming, Double Eleven and Execution Labs. Unity Technologies has also signed up as an event partner, and will be in attendance on the day.

The basic indie expo pass is free, while indie tickets for the meeting system – which guarantees you a day's schedule of private meetings with publishers looking to sign new games – is priced at £59 +VAT.

Indie game expo spaces are £179 + VAT and include involvement in the meeting system.

For publishers and larger studios, an expo pass is £20 + VAT, and the meeting system rate is £149 + VAT. Publishers looking to host meetings for the day pay £500 + VAT.

For more information and to book your tickets, visit the Interface website at: **www.interface.events.**

Woodley agrees that at least a prototype is required for a successful pitch. While he believes "a good idea is a good idea", and will take a look at any game whether it's close to completion or at the concept stage, a proven idea is ideal.

"It shows that the developer has the courage of their convictions and genuinely believes in the idea," he explains. "And two, it shows us that what looked like a good idea on paper is starting to manifest itself in code. I would say that the most successful pitches which come to our greenlight table more often than not have some sort of prototype already developed."

Williams adds that showing a generous amount of code to test the look and feel of a game's concept can also help when it comes to marketing later on.

"Don't wait too long delivering this look and feel as we all really benefit from planning marketing into the concept as soon as is possible," he states. "We genuinely believe we add skills to your business and will help maximise returns, so feedback at an early stage can often save a lot of wasted effort later down the line."

A NEW BRAND OF PUBLISHER

While there are still horror stories that make their way around the games industry of developer's burned by bad publishing deals, the sector is certainly different to the landscape of five or ten years ago. More power is now in the hands of developers, thanks for the opportunities in self-publishing – though discoverability is not an issue to be taken lightly.

Woodley says today's publishers are more respectful of the fact that developers "are the life-blood talent of our industry, without them we are nothing". He says it's no surprise from those older horror stories that more indie publishers have sprung up in recent years, often from development studios themselves, such as Team17 and Curve, to disenfranchised individuals from major publishers "looking to put right some of the wrongs of the past".

> ***"Publishers should be the sunshine energising the creative process rather than a dark cloud."***
>
> Simon Byron, Curve Digital

"Publishers of today also have to be a lot more dynamic and flexible than the publishers of the past," he says. "The pace of change in our industry is showing no signs of slowing.

"Whether it's in specific areas of, for example, consumer marketing, where changing behaviours are throwing up new best practises in consumer communications almost every month, or more broadly in terms of business models and distribution channels, it is important for the modern-era publishers to keep re-evaluating and re-inventing themselves as the changes happen around them."

LIFTING THE PUBLISHING VEIL

Byron says the real difference these days is that much of the mystery around publishing has been removed. Good publishers are accountable, open and honest, he states.

He cites tales of developers never seeing royalty reports, which he labels "absolutely disgraceful". And those bad deals raise a good point, with the prevalence of social media and so many publishers in competition – a bad publisher will quickly find themselves in the headlines and out of favour with developers.

Byron adds that publishers now also have to work harder for these developers, given the tough discoverability challenges they face across all platforms

"The ability for almost anyone to write a game means that it's no longer enough just to be featured in a digital or physical store," he says.

"We also need to work harder to convince partners to work with us – there's often the assumption that the results from going it alone or with a publisher will be the same, albeit keeping all the money. Good publishers should be the sunshine energising the creative process rather than a dark cloud sucking up whatever per cent of revenue they're screwing you for." ■

Curve's Simon Byron (above), whose company helped bring The Swindle to consoles (top left), says publishers need to work harder than ever to convince developers to work with them

Licence to thrill

Beeonx creative director Thomas Wilson (above) says after years of proving its ability as a development studio as part of Activision, Beenox has earnt its spot working on Activision's most important franchises

Beenox may not be Activision's most well-know studio, but it's worked on the publisher's most important franchises. **Craig Chapple** speaks to co-studio head and creative director Thomas Wilson to find out what part the developer plays in the publisher's multi-billion dollar operations

FOUNDED IN 2000 in Quebec City, Canada, Beenox became known as a reliable porting house for game developers.

The studio was bought by Activision in 2005, and until last year it largely worked on famous licences, including *Bee Movie*, multiple *Spider-Man* games and *Monsters vs. Aliens*. It's also a key QA house for the firm.

But now the developer is transforming itself again. Last year it worked with Toys for Bob on *Skylanders Trap Team*, and it developed all the racing elements for September's *Skylanders: SuperChargers*. It's now also finishing work on *Call of Duty: Black Ops 3*, for which it is helping port the blockbuster to last-gen consoles PS3 and Xbox 360.

No longer working on the *Spider-Man* IP, the studio is now entrusted with development on Activision's biggest, billion dollar franchises.

SUPERCHARGED

Speaking to *Develop*, co-studio head and creative director Thomas Wilson says it's all been part of a journey with Activision, starting with *Bee Movie*, to prove it was able to create successful products while showing off its creative and technical abilities.

Eventually, the opportunity to work on *Spider-Man* cropped up, for which the studio decided to develop *Spider-Man: Shattered Dimensions*, released in 2010. The title received average to positive reviews, and paved the way for its work on three more games related to the IP.

But with shifts in the industry, such as more powerful consoles, rising expectations amongst consumers and the death of mid-tier development, things were about to change for Beenox.

"Eventually, as you might see in the industry, the projects, they get bigger and bigger," said Wilson. "That was right along the time where there was a slate of projects that were what we could call mid-tier projects, a project that sits in the middle with an acceptable budget. And at the time we could almost pick and choose projects.

"But now you look at the projects, you look at the size of them, and you're looking at the focus Activision's putting on things like *Destiny*, *Call of Duty*, and *Skylanders,* and now they're going to re-launch *Guitar Hero*. And these projects require a lot of people.

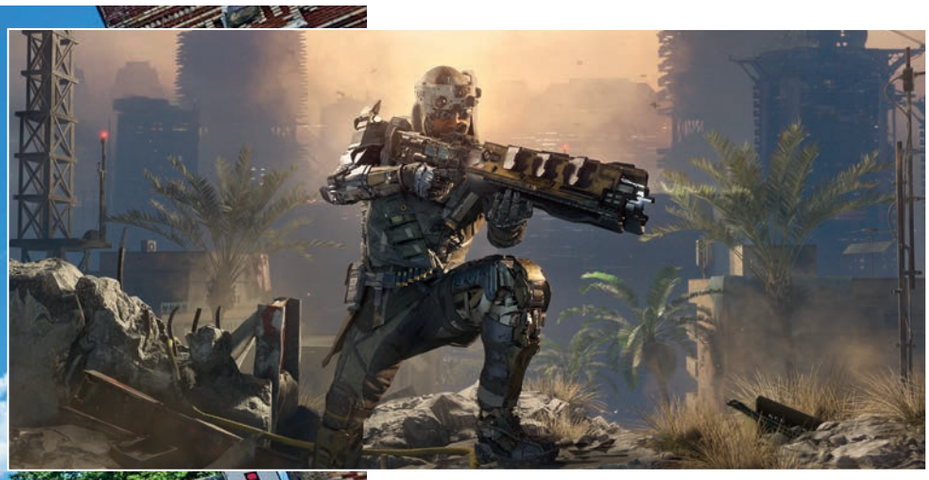
"So eventually, as we proved our ability as a development studio, we started working on these important franchises. Because, let's face it, there's a lot of content to develop. We supported Vicarious' vision and Toys for Bob on *Skylanders*, and now we're working on *Call of Duty*, the biggest franchise for Activision. So I'm pretty happy with how it evolved."

DUTY CALLS

The pressures of working with Activision are obvious. With such big, annual franchises and a lot of money riding on each release, Wilson says delays are out of the question. Indeed, Activision has never postponed a *Call of Duty* or *Skylanders* game, and they release running smoothly without any noticeable bugs. The alternative is just not a situation the publisher will entertain.

Wilson admits, however, that while the likes of *Black Ops 3* wouldn't be delayed, there has been an increase in resources and the number of people needed to make such games. He notes that in a graphically realistic series like *Call of Duty*, everything from the trash cans and phone booths to the main character requires detailed work.

"We see that nowadays, even with our competitors next door, if you think of a game



Clockwise from top left: Beenox has worked on Call of Duty: Black Ops 3, Skylanders: Superchargers, Spider-Man: Shattered Dimensions and Bee Movie

like *Assassin's Creed: Syndicate* (led by neighbouring developer, Ubisoft Quebec], it's developed by multiple studios," explains Wilson. "And even the studios that are working for the company will also deal with outsourcers to create assets.

Despite traditionally working on licensing projects, and now alongside other developers on Activision's own IP, Wilson says there's still plenty of opportunities for the team to flex its creative muscle.

In fact, he says, in many ways, the constraints are something he loves working with. He explains that while people may historically brush aside licensed games because many are historically bad – and he admits that the budget for these titles can often be limited – it provides an opportunity for creativity to stand out.

FINDING CREATIVITY

"Basically when you know the boundaries, and you know how you can be creative within those boundaries, from there I believe emerges creativity," he states. "So what we would do is make a case in point of thinking about how this game could surprise everyone."

Wilson adds that working on a movie tie-in, such as it has done with *Bee Movie* and *The Amazing Spider-Man*, also has numerous benefits to support development. These include the fully written script, greater exposure to the public and a huge amount of creative talent behind it. Even if this doesn't necessarily include large investment from the studio itself.

"If you're working on an animated movie and you're making a game with it, you get tonnes and tonnes of concept art and things that are coming out, it's almost like you have a concept art army with you that you can use to leverage the quality of the game you're putting together," he says.

"Most of the games sometimes will only have three to four artists, but when you're thinking about all the content you get from a world that's been created by another group, this is where it gets exciting. So I was looking at all this stuff, I was like a kid going to DreamWorks, meeting the directors, meeting the artists. And when they were showing this stuff, and the movie's not even out yet, you get this wall of concepts and you have these figures, and you're like 'oh my god, this is cool'."

LAST-GEN VERSUS NEW-GEN

The studio's most recent work on *Black Ops 3* has been more constricting, however. Beenox, along with Mercenary Technology, has been given the task of squeezing Treyarch's bombastic triple-A new-gen experience onto the PS3 and Xbox 360.

The gap between hardware generations has become larger, and, as a result, Activision has had to drop the single-player campaign completely from the last-gen releases. The publisher is also targeting 30 frames per second, the first time in years the franchise has moved away from the 60fps it's famous for.

Despite such difficulties, Wilson is adamant that releasing *Black Ops 3* on last-gen consoles is still worthwhile.

"Because Activision is a big family, they started looking at how we could still have the same experience for the last-gen version," he explains. "And Treyarch, in this case, will focus entirely on delivering the most kick-ass game on new-gen, and on our side we focus on providing the best last-gen experience.

"What happens is they make their game, they hit their deliverables, and then we take that content and we figure out how to make a great experience. So the new-gen experience is not impacted by what goes on in the last-gen version. And also, there's so many players out there that still have a PS3 and don't own a PS4, and we believe they deserve to have that *Call of Duty* experience on their consoles. So that's why we're making it."

While the studio has much of its history steeped in licensed games and supporting Activision IP, Wilson says its ambition, and indeed the dream of any creative developer, is to work on its own, original game and lead development. He teases that Beenox is currently at work developing an unannounced game, but can't reveal what it is or the extent of its involvement in the project.

But, while creating an original game is the ambition, Wilson admits that as part of Activision, it needs to be an idea that will sell, and sell well.

"To be honest, when you start thinking about it and what it actually means today, to release a new IP that's going to be successful, don't forget that at Activision, we make great games that sell," he explains.

"You don't want to make that great game that nobody buys and the studio shuts down. So you have to be very careful in the way you plan out your new IP, and in the Activision world, that means a lot of planning. There's a big process in coming up with an idea and showing it so that everybody agrees that this game can be successful. It's definitely easier said than done. But yes, working on something that's wholly original is the cornerstone of every developer." ■

From West to East

Bigpoint producer Jonathan Lindsay discusses how Western developers can prepare their game for success in Asia

Bigpoint producer Jonathan Lindsay (above) says the studio had to do some significant work redesigning core gameplay mechanics in Drakensang Online (main) to make it suitable for Chinese players

IT WOULD BE wrong to describe Asia as a "rising market" for games. It's already worth billions of dollars.

Its riches have seen numerous Western developers and publishers look to make it big in the region, but few have succeeded. Notable triumphs include Riot Games' *League of Legends* and Blizzard's *StarCraft* series. And these are now two of the biggest companies in the world.

German games developer Bigpoint is the latest Western company to target the Asia market. It has partnered with media and telecoms giant Tencent to bring *Drakensang Online* to China, and has completely redesigned its star performer to adapt it to local tastes.

Drakensang Online producer Jonathan Lindsay tells *Develop* that the Asia games industries are still enjoying rapid growth. And being home to more than half of the world's population, there's a huge audience for the right games. He warns however that it's not a market without competition.

"It's easy for a successful Western company to fail hard in Asia," he states.

CULTURAL DIVIDE

There are obvious cultural differences between European countries and those in Asia, right down to gameplay preferences.

"In terms of gameplay, the main difference that I've noticed is the different level of player guidance," he says.

"German players in particular, tend not to want to be interrupted with hints, whereas Chinese players would much rather be closely guided and have more gameplay automation features."

Lindsay says another key difference to keep in mind is user interface design. While many Western developers try to keep the interface as clean and clutter-free as possible, it's perhaps surprising to hear that the reverse is true for China.

"Chinese games tend to have very heavy UIs with a lot of text onscreen, since the gamers there want to have as complete an overview as possible without having to click any buttons," he explains.

"With regard to gameplay mechanics, the most obvious one that won't work in some Asian markets are games of chance, since these features are actually illegal in some countries. With regard to *Drakensang Online*, we had to redo several exploration quests as this type of gameplay is not prevalent in Asia like it is in the West."

Bigpoint has invested heavily in researching local gaming tastes in the Chinese market, and re-developing its existing browser game, *Drakensang Online*, around them.

The studio has completely redone the monster difficulty and reward balancing, along with implementing a new quest guidance system – in fitting with his earlier comments that Chinese players like to be guided through the experience.

It has also had to rethink and adjust the real currency economy due to the need to have several automation features in the game, that he says would otherwise make grinding real currency too easy. But that's not all.

"Re-worked quest giver portraits and some other graphical changes are also in the pipeline, though Tencent is very keen to keep the European aesthetic of *Drakensang Online* intact, as it's something that sets the game apart," says Lindsay.

"Localisation of the story text and all other texts is also a very large area of work, as bad localisation can be very harmful to a game's success."

LOCAL SUPPORT

Partnering with Tencent has also been a key step in preparing *Drakensang Online* for its China launch, Lindsay says, adding that the key to success in Asia markets is who you partner with and who you hire.

"Recruiting local talent is critical In China," says Lindsay. "We've partnered with Tencent, and in South Korea we've built our own local office and recruited industry veterans such as Derek Oh, who previously worked with Blizzard and Riot in the South Korean market.

"The performance of the game in South Korea after its launch last month is extremely encouraging and most of that is thanks to the feedback we got from Derek and his team. The other critical area is a simple one that's easy to forget – be humble and listen to the local feedback. Some features might seem harmful to the game from a Western perspective, but they are simply required features in some markets."

Drakensang Online recently launched in South Korea under the name *Dragon Rise*, and Lindsay says it has "exceeded expectations".

It seems that preparing for launch in Asia markets is not for the faint-hearted. But those with the resources, combined with the right preparation and understanding of local markets, can find a way to success. ■

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Pole To Win's new conversation

The localisation firm explains how the acquisition of Side is helping the firm grow its offerings

Side's Olivier Deslandes and Pole To Win's Chris Rowley are aiming to expand their localisation services to more languages, particularly for Asian markets

THE LOCALISATION REQUIREMENTS of publishers and developers are always evolving. Whether that's more languages, bigger volumes, or a switch to continuously updating content, it's essential that service providers also evolve to meet those requirements.

Pole To Win's recent acquisition of London-based creative services company Side is just one example of how the company is always working to stay ahead of the localisation needs of their clients.

Chris Rowley, director of localisation at Pole To Win, and Olivier Deslandes, head of localisation at Side, have extensive industry experience to draw upon. They have been at the forefront of managing the successful delivery of many titles across multiple languages and are both passionate about the role quality localisation plays in a successful launch.

"If a product is well-localised, it appeals to more people, in turn making it more accessible and increasing sales volume," explains Rowley.

Deslandes adds: "Although a great localisation cannot save a bad game, a bad localisation can really ruin a great game."

LOCALISE TO WIN

As gamers from around the world show their loyalty to well localised titles, publishers are realising the positive impact of investing more pre-production and production time into this often underrated process.

The acquisition of Side allows Pole To Win to offer clients a fully comprehensive package of localisation services. Side's experience of casting, directing and recording projects from an established global network of studios, also enables Pole To Win to provide high quality voice production in a wide variety of languages. And its global presence opens up the opportunity for Side to work with many more companies around the world.

> ***"If a product is well-localised, it appeals to more people, in turn making it more accessible."***
>
> Chris Rowley, Pole To Win

"Every client wants a 'boutique' level of attention and service," says Deslandes. "But the benefits of being part of a much larger organisation mean we can benefit from greater economies of scale. These savings can then be passed on to clients."

Pole To Win's core localisation services of translation and linguistic testing are delivered from their offices all around the world.

"It's important that we continue to understand the local in-territory needs of our clients," says Rowley. "We deal with some on a global level, yet their needs are very different in each geographical location. It's vital that we provide the highly tailored service their projects require."

LINGUISTIC NEEDS

As Pole To Win looks to the future, plans to expand their current offering of 34 languages is top priority. Within the past few years, there has been a dramatic change in both console and mobile language requirements, especially in regards to Asian languages.

As Rowley says, these once 'exotic languages' are now becoming a part of the norm in the games industry, and Deslandes adds that Side is already providing Mandarin voice production on two world leading game franchises.

One thing that's clear is that the combination of more content, compressed timelines and global launches mean bullet proof project management is essential. To improve this process, Pole To Win recently introduced a global Project Management Organisation scheme, to streamline delivery and client communication.

"With the growing demand for global delivery we have to ensure that we're meeting the local requirements, on time, to the highest quality bar, every time," states Rowley.

Both Rowley and Deslandes agree this blend of service, efficiency and communication is key to a successful localisation project. ■

www.poletowininternational.com

The not so strange world of Dontnod

The Develop Award-winning studio has stolen the spotlight this year with episodic adventure Life is Strange. **James Batchelor** finds out more about the French developer

What was the biggest development for Dontnod over the past year?
Oskar Guilbert, CEO: *Life Is Strange* was our biggest development this year. Stepping into a new genre was challenging. It's an invaluable experience for us.

What are your goals and priorities for the year ahead?
We are currently working on our new action RPG, *Vampyr*. We also have several surprises to come, but I cannot reveal them now.

What makes Dontnod different from other studios?
I think we made a little difference with *Life Is Strange* because we approached mature themes and concepts, and tried to do so with care and subtlety. Those themes are not always dealt with in video games, and that is what we wanted to bring to an interactive title.

Also, having a female lead character in both *Remember Me* and *Life Is Strange* felt natural for us, but that's not so common among other developers.

What did you learn from the success of *Life Is Strange*?
We had no idea it would be such a success. It has been very rewarding and we've learned a lot. The episodic format was new to us, so we had to prove ourselves.

We learned a lot from the community also. Their feedback pushed us forward in the right direction. We'll definitely use this experience to develop our future projects with everything we've learned.

What do you attribute *Life Is Strange*'s success to?
When we started to work on the game, we knew we wanted a game centred on characters dealing with issues and facing difficult choices. A slice of life, really. Something that feels real enough that people could relate to it. I think we've achieved this goal, and that's probably a huge part of the success of the game.

We received a lot of mails and fan arts from the players telling us that they feel a little less alone when they play this game because they can see that they are not the only ones who are having those problems. This is what we wanted to do: just talk about those problems, and also having fun playing those characters, but inside this realistic environment.

What were the biggest challenges of developing *Life Is Strange*?
One of the biggest challenges was to structure production so you can ensure steady time windows in-between releases.

> ***"We wanted a game centred on characters dealing with issues and facing difficult choices. A slice of life."***
>
> Oskar Guilbert, Dontnod

The creative challenges are really what drew us to episodic, as it was refreshing to rethink the way we would structure our experience. The episodic format was also a challenge for the teams. Everything is multiplied by five – five voiceover sessions, five mo-cap sessions, five submissions phases.

Also, planning-wise, we were really optimistic in the early stages about our capacity to work over many episodes at the same time. We realised along the way that it was really better to focus our energy on a single episode rather than spread it among episodes that were all at a different stages of production.

Are you planning to expand your team?
Yes and we are always looking for talented people. Profiles such as programmers' are pretty rare, but we have needs for others, too.

Tell us something no-one knows about your studio.
The studio is located very near Centquatre-Paris, an artistic establishment that supports and works with young artists. We like this place; it's always nice to have cultural activities, exhibitions and concerts nearby. And they have some of the best pizzas in Paris. ■

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#DEVELOPJOBS

Your monthly guide to the best career opportunities in games development worldwide

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Lucid Games programmer Joe Hurst on getting a job at the Geometry Wars 3 dev
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Channel 4 is staffing up for its new publishing label All 4 Games
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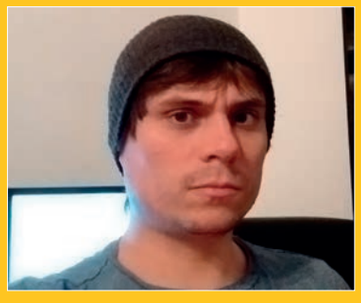

SKILLS AND TRAINING
We take a look at what Bournemouth University has to offer aspiring devs
P32

A garage band no more

Dlala Studios' Aj Grand-Scrutton discusses working on a new IP, expanding the team and why it plans to recruit staff with no prior experience in their desired role

By Craig Chapple

ONCE A SMALL micro studio, *Overruled* developer Dlala has gone from its two founders Craig Thomas and Aj Grand-Scrutton working in their parents' garage to owning their own office space housing ten staff.

By the end of next year however, they plan to expand to up to 17 staff. The studio has also picked up the rights to what it claims is a 'well known' and 'popular' IP, though it remains tightly lipped on the details.

To support development, it's looking for a gameplay programmer, graphics programmer, illustrator, level designer and design assistant. And Grand-Scrutton says the latter role is completely unique.

"It's a strange one because I'm not sure how much of a role like it exists currently," he says. "We basically need someone to come in and read comics, watch cartoons and films, and start doing idea generation."

Grand-Scrutton admits the idea of transforming from a garage band and its micro studio roots is a scary one, particularly when it brings the potential danger of negatively affecting studio culture. Even more so when it comes to some of its generous incentives.

"We have a very open culture, everyone knows everything that is going on," he says. "Whilst we have 'lead' roles, everyone is equal on the food chain, as long as respect is there.

> ***"CVs are great, as are degrees, but they don't necessarily tell me anything."***
>
> Aj Grand-Scrutton, Dlala

"We also have a lot of perks that can be open to exploitation, such as unlimited holiday, that, if you get the wrong people in, can lead to trouble. However, we believe in hiring right and not hiring fast. If it takes us months to find the right people I'd rather do that then get potentially wrong people in quickly to tick a box."

One of the most interesting aspects of Dlala's hiring spree is how some of its vacancies state that work on previous titles is "definitely not a necessity". Despite the pressure of handling a well-known IP, Grand-Scrutton says the studio is open to relatively inexperienced devs, as that's how he started his own career; a studio taking a chance on him.

"Before I had my first job in the games industry, I had zero experience," he says. "But luckily for me Jagex, in particular Henrique Olifiers, took a gamble on me.

"This then led to me joining Henrique at Bossa when he formed the studio. If you look at the six members of Dlala currently, none of us had done our jobs before. I'd never been a director, Craig Thomas never a lead designer, Ben Waring never led tech, Loudon St.Hill never a designer and Chris Rickett and Grant Allen both had never worked on a game before.

"It's about talent and potential, CVs are great, as are degrees, but they don't necessarily tell me anything." ■

MOVERS AND SHAKERS

This month: Develop, Testronic, d3t and Sperasoft

DEVELOP ■ NEWBAY MEDIA has promoted **Andrew Wooden** to the position of interactive entertainment content director.

In his new role, Wooden will be responsible for reviewing audience needs across the media company's leading games industry publications *Develop* and *MCV*. He will also oversee its others brands in tech, toys and bikes.

Wooden will support the editorial teams, and work with new sales director Mark Rankine and events director Caroline Hicks.

"Our key objectives at NewBay Europe are to connect our communities, deliver timely and valued content, and provide our partners efficient and effective solutions to their marketing needs," said NewBay Europe MD Mark Burton.

Wooden has already garnered experience in the games and technology industries, having joined Intent Media in 2005 as a staff writer on *MCV*, and later working on *PCR* and Future's *T3*.

TESTRONIC ■ **BRETT MORRIS** has been named the new CEO of QA and localisation firm Testronic. Morris was formerly CFO at Catalis Group – Testronic's parent company – for four years, a job which saw him work for Kuju and SocialGo. Prior to this, Morris worked in finance and private equity.

"Brett has contributed significantly to the structuring and financial positioning of the Catalis Group over the past few years, and I'm delighted that he is stepping up to oversee Testronic Laboratories," said Catalis Group CEO Dominic Wheatley.

Morris added: "It's an honour to be taking on this new role at what is an exciting time for Testronic Laboratories. Our testing facilities in the UK, Poland and the US are witnessing significant growth in activity thanks to our commitment to delivering a first rate service to our customers. We are anticipating substantial growth in our services over the coming years as we continue to invest significantly in our capabilities."

D3T ■ The IT company has hired **MATT GREEN** as its head of art.

Green joins with 15 years of experience, having held a number of roles across the games industry.

He started out as a junior artist in 1996 at D.I.D., before joining Rage as its senior artist and lead vehicle artist. In 2003 he moved to Juice Games, working on street racing title *Juiced* as its lead vehicle artist, before being promoted to lead artist in 2005.

He later moved to publisher THQ as its principle artist, working games including of *Red Faction Battlegrounds* and *Warhammer 40,000: Kill Team* before joining Sumo Digital in 2011.

"I am really pleased to join the guys here at D3T," Green said.

"The role of head of art is a fantastic opportunity for me and one which I will relish. The work ethic and environment is great, every day brings new and fascinating challenges due to the wide variety of projects we are developing."

SPERASOFT ■ The services company has recruited **RICK SMITH** as its new director of engineering.

Smith has 17 years of experience as a developer, architect and engineer. He previously worked at Sony Online Entertainment, where he played a key role in the development, deployment and maintenance of the PlayStation Network on the PS3, and later other platforms. He also oversaw projects including video, payments, APIs and security.

He then joined Trion Worlds as a senior manager, and most recently was director of release management at Rockstar Games.

"Rick will be an important addition to the Sperasoft team, as we grow our talent base and strengthen our service offering to clients," said Sperasoft CEO Igor Efremov.

"He has a breadth of experience with technologies in engineering, development, and DevOps, and as the demand for online gaming services continues to increase, his expertise and vast knowledge will be a huge."

Employee HOT SEAT

Lucid Games programmer **Joe Hurst** discusses the recruitment process at the Geometry Wars 3 developer

What do you do at the studio?
I'm a general programmer with a speciality in rendering. I work on game projects from concept to completion and titles that require a conversion from one platform to another, as well as helping with other projects the company has undertaken.

How did you get your current job?
After university I spent my summer in Dundee competing in the game making competition, Dare to be Digital, where our team became one of three finalists. Our team leader had worked in Liverpool prior to the competition and was aware of the growth of independent games and animation studios in the area. I applied via Lucid's website and was offered the position.

What perks are available to those working at the studio?
I would say the major perk of working at Lucid Games is the ability to explore your field of expertise as well as hone in on a particular interest. I describe my job role as general programmer because I have been involved in many areas of games development, from game design to core tech.

My true passion though is for render programming, which Lucid Games has allowed me to focus upon in many projects, such as *Geometry Wars 3: Dimensions*. This type of involvement allows for each individual to grasp the entire concept of the current project, as well as work on the parts they find most interesting. Aside from the major games, Lucid Games promotes side projects, which allows employees to try out their game ideas whilst being surrounded by highly skilled co-workers happy to help out.

Flexible hours allow for that extra use of the snooze button. Pet dogs and rabbits visit on occasion, lunch time games are enjoyed across the company and Nerf guns are locked and loaded at all times.

Name: Joe Hurst
Title: Programmer

Developer: Lucid Games
www.lucidgames.co.uk

> ***"Lucid promotes side projects, which allows staff to try out their game ideas."***

What is the recruitment process like at your studio?
Lucid Games are always on the lookout for new talent that will fit well into the company. Which means the recruitment process is both a test of ability and character, as we believe compatibility and co-operation is the key to an efficient and dedicated workforce. Our applicants undergo two face-to-face interviews, one with, and one without, technical staff.

What was your own interview like?
Quite relaxed and friendly. As this was a graduate position, we talked about what my course had covered and what my aspirations were. The interviews took place in a large open-plan office space, de-formalising the process somewhat, which was a welcoming change to the the 'sweat boxes' other recruiters decided to use.

I was shown around the studio, shown the current projects and met some of the faces I would later be working with. From the interview process I was given a glimpse into what working at Lucid Games would be like, which made it an easy decision to make once the position had been offered to me.

RECRUITER HOT SEAT

The boss of Channel 4's new publishing arm, **Colin Macdonald**, tells Develop how one could get hired at All 4 Games

What differentiates your company from others?
Channel 4 was first created to stimulate a UK TV production industry by sourcing its content externally, rather than creating shows in-house.

We apply that same ideology to games too, so we're not looking to develop our own games, but to find games that indie developers would ideally have wanted to self-publish, but now realise they need some help in reaching an audience - which is where Channel 4's reach comes into play.

> ***"In 2016 we expect to be ramping up our recruitment drive further."***
>
> Colin Macdonald, Channel 4

How many staff are you looking to take on?
We've currently got a team of four that collectively have clocked up 60 years in the games industry, and we're looking for one more to complete the core team in the first instance.

In 2016 we expect to be ramping up further, but the precise numbers and roles we'll determine at the time, based on what'll work best for the industry.

What perks are available to working at your company?
Channel 4 offers all the standard perks, and more, but what people seem to value most is job security and getting to work with similarly committed, passionate and smart folk.

What should aspiring games industry professionals do with their CV to get an interview?
Getting the first job in games is always the hardest, but by building a portfolio and differentiating your CV from the masses you'll have the best chances.

Who is the best interviewee you have ever had and how did they impress you?
The best interviewees don't do anything gimmicky, but have already been selective about the job being a good match for them, and they just talk clearly and honestly.

And who was the worst?
As I walked an interviewee into the meeting room, he mentioned our company name at the time and commented: "It's a bit of a shit name really".

He might've been right, but the lack of judgement and self-awareness lost him the job before he'd even sat down.

What advice would you give to help ensure a successful interview at your company?
Don't try to bullshit. We're looking for genuinely passionate people – so if you're not passionate about games or your preferred discipline, then you're probably not going to be the right fit for us.

If you have recruited internationally, what is the process like?
So far the team's all come from within the UK.

Why should developers work with you when going indie and self-publishing have become so much more accessible?
The accessibility of self-publishing is both a blessing and a curse – it's great that it's become so easy for everyone, but the result is it being so hard to stand out.

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GET THAT JOB

Development specialists offer advice on how you can bag that career leap

THIS MONTH: TECHNICAL LEAD WITH DLALA'S BEN WARING

What qualifications and/or experience do you need?
There are so many different courses and qualifications out there now. Although a technical degree will help, it's super important to have a strong portfolio, professional or personal. If seeking that first job, having a personal portfolio will not only showcase your talent, but also your personality and willingness to learn.

It goes without saying a strong grounding in maths, a programming language and the ability to show it is a must. Traditionally, the language of choice is C++, and this is used by many of the big boys in their in-house game engines.

Today it is more common for smaller teams to use an off-the-shelf engine such as Unity or Unreal. Working knowledge of engines and middleware will definitely give you the advantage.

How would someone come to be in your position?
There's the traditional way - learn your craft and work your way up. Begin at a junior/entry level and if you are skilled and driven, grab those opportunities when they present themselves.

> ***A strong grounding in maths and programming is a must.***
>
> Ben Waring, Dlala Studios

Then there's the way I did it. Take a gamble and join a small start-up/Indie team. As team sizes are small you often only get a couple of heads in each discipline, and with that comes more responsibility and nowhere to hide.

If you were interviewing someone, what do you look for?
On a personal level, I want to see passion and enthusiasm. What we do has to be more than just a job.

Technically, it's all about that experience and portfolio. Alongside great code I want to see inventive, clever ideas. As a small team, we love every member of staff to be creative, from the newest employee to the CEO.

What opportunities are there for career progression?
From a lead position there is a technical director role or the more official CTO. With each jump comes more responsibility and more decision making.

Some companies will allow you to manoeuvre across disciplines. I've previously worked with technical leads that have moved into design and others that shifted into production.

If you've got job advice to share, email **Alex Calvin** at **acalvin@nbmedia.com**

SKILLS AND TRAINING

This month: Bournemouth University

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BOURNEMOUTH UNIVERSITY'S CREATIVE Technology department offers two undergraduate degrees related to game development: a BSc in Games Technology and a BSc in Games Programming.

The Technology programme covers all different parts of the development pipeline, including those related to art. The Programming course meanwhile focuses exclusively on the coding aspect of making games.

Programming at the university is predominately done in C++ and C#, while art tools include Photoshop, Maya and Zbrush. As well as a number of development tools readily available, students are able to access the University store and take out equipment at no cost.

Speaking to *Develop*, Bournemouth University programme coordinator Christos Gatzidis says its two courses are constantly being revised and updated, based on industry feedback, to ensure students are well-equipped and know what to expect in the industry when they graduate.

"This includes new units, switching to different hardware and software platforms, and many other changes," he explains. "We feel this approach is imperative in a very fast-changing industry. In addition to this, our courses offer a 40-week placement during the third year and so far we have had a number of our students do placements with a variety of games developers in the UK and abroad, including Jagex, Lionhead, Marmalade, Goodgame Studios and others."

Bournemouth University runs two degrees related to games development: a BSc in Games Technology and a BSc in Games Programming

> ***Our students have had placements with Jagex, Lionhead and Marmalade.***
>
> Christos Gatzidis, BU

Ensuring students have experience in game development appears to be a crucial aspect of Bournemouth University's courses.

Much of the assessed coursework is geared towards the production of a complete game, whether in groups or individually. It also encourages pupils to get involved in game jams and work on projects in their spare time.

COMING SOON

FOR MORE INFORMATION

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BUILD

THE LATEST TOOLS NEWS, TECH UPDATES & TUTORIALS

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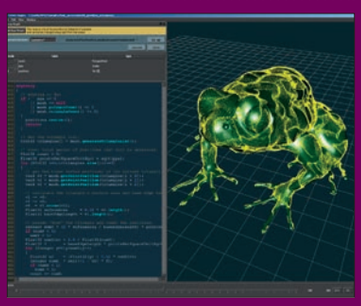

KEY RELEASE
A peek under the hood of Fabric Engine 2, a solution for building tools and applications
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Light the frights:
Atmosphere in Until Dawn

Supermassive Games' executive director Will Byles speaks to **James Batchelor** about the role lighting, photography, performance and Renaissance art played in the creation of one of this year's biggest horror successes on the PS4

Where did you start when creating the atmosphere for *Until Dawn*? What were the key things you wanted to accomplish?
Will Byles, executive director, Supermassive Games: Horror's an interesting genre, especially when it comes to games. Games are often about empowerment, learning and perfecting skills to overcome greater and greater challenges. Horror is about creating fear, and fear is often a result of disempowerment. People are frightened of the dark because their power of sight has been compromised, effectively reducing their abilities for both fight and flight.

Film handles the dark very effectively with a technique originating in Renaissance painting and made popular by artists like Rembrandt and Caravaggio called 'Chiaroscuro', which is Italian for 'light dark' – literally meaning 'clear dark'. It's the use of high contrasting areas of light and dark for composition.

Traditional photography is very effective at using this technique due to the nature of how light reacts with the silver halide emulsion on film. There is a very predictable curve, often known as the 'D-logE' curve, which allows photographers to accurately plot the density of the emulsion: 'D' – density of emulsion – against "log E" – logarithm of exposure. Three or four exposure levels of difference here can make a significant change in density, thus creating Chiaroscuro.

With video – or in our case digital – those differences in exposure lighten and darken much more evenly and give a more prosaic image. The best way to think of this is by watching a battle scene in a high-end movie and then watch the 'making of' documentary of the same scene; the difference in feel and quality of the footage will be stark.

Supermassive Games executive director Will Byles says the studio's inspiration for Until Dawn came from numerous films, TV shows and games, notably Halloween, The Thing, Buffy and Silent Hill

Until Dawn heavily uses lighting to set the mood for the player, and was achieved with the help of the Killzone: Shadow Fall game engine

The challenge for us was to get that same feel as film, to create a level of fear without just darkening everything down. Unfortunately, game renderers are designed to do the opposite of Chiaroscuro. If something gets too dark, the engine will try to brighten it and vice versa. We had to invent some new techniques to get around that.

What were your sources of reference and inspiration when it came to creating a horror atmosphere? What other games, films or TV shows did you draw from?
There was a lot of inspiration from the classic slasher movies like *Friday 13th*, *Halloween*, *Nightmare on Elm Street*, but also the less obvious ones, like *John Carpenter's The Thing*, *Psycho* and *Evil Dead*, as well as the post-modern, self-referential movies like *Scream* and *Cabin in the Woods*.

From TV, there are some great horror series; *Buffy* and the brilliant *Supernatural* being just two. Games like *Fatal Frame* and *Silent Hill* were also huge inspirations.

Ultimately, we embroiled ourselves so deeply in all forms of horror media over the course of the project it's hard at this point to cite all the specific points of inspiration; safe to say that there were a lot.

What role did the lighting system play? What effects did you use, and why?
Getting the lighting right in horror is vital, and traditional game lighting is not the ideal setup. As I mentioned earlier, Chiaroscuro was the look we were going for and game engines are not set up for this. Real-time lighting is computationally expensive and lighting bakes of environments aren't dynamic. A typical solution for embedding characters in their "baked" environs is the use of probes and IBLs; effectively a localised, spherical snap shot of an area affecting the ambient light of an animated object or character.

> ***"We used Killzone: Shadow Fall's engine as the basis for lighting pipelines."***
> Will Byles, Supermassive Games

The trouble is, ambient light is a disaster in Chiaroscuro. So we were faced with some very difficult choices: limited real time lights vs ambient artefacts, for example. As is often the case, compromise was key, heavily using screen space to modulate the 'logE' part of the aforementioned equation, replacing density with luminance.

How did the game's different environments affect your lighting design?
Along with fear of the dark, we also wanted to go from claustrophobic to exposed, subterranean to precipitous, freezing cold to cosy warm, as well as affording the characters – and, by extension, the player – the ability to affect their surroundings with some form of light source.

A large part of this was achieved using particle effects and volumetric lighting. Outside shots used moonlight, of course, but we wanted to create little fragile pools of warmer light around the characters, like Emily and Mike with their flaming torches. Inside we tried the reverse; theatrical lights, effects and candles from Josh contrasting with the more sterile flashlight beams from Ash, Chris and Sam.

What technology did you use for the lighting? Was it proprietary or third-party, and why did you choose this tech?
We used the *Killzone: Shadow Fall* game engine as the basis for the lighting pipelines, adding pipelines and modifying the existing ones to allow us to get a more filmic look, as opposed to the CG look most renderers deliberately achieve.

An interesting difference between movie lighting and game lighting is the bespoke, 'per shot' lighting of film. To simulate it we had a pipeline that allowed per shot lighting set-ups in all parts of the game where player control was limited; in our more traditional cutscenes, for example, or the

conversational choices the player is asked to make. Where player control was in full, during the exploration sections, we used custom lighting rigs that only affected specific characters.

We also made a number of rendering feature improvements and optimisations, from tile lighting and order independent transparency, to hair-specific shading to allow back lighting to shine through it.

How did you handle photography? How did you balance between capturing the style of horror films while still making this accessible as a game?
This is always a very contentious issue between design and art. Cameras, and indeed editing in movies, need to convey mood, location, action, emotion, composition and obfuscation. Cameras in games – aside from cutscene cameras – are continuous, not edited, and are for orientation and locomotion; where you are and where you can go, often fixed to first or third-person. We wanted to have all of the movie camera attributes working in conjunction with the needs of orientation and locomotion.

The simple solution to this is we had to do a lot of testing. We developed a set of rules that we always aimed to adhere to. The best example, perhaps, is: 'never make a 90-degree camera cut when a character is at a junction in their path'. Ignoring that one never failed to confuse and disorientate.

How did you get a strong performance out of your actors? How can you ensure their performance reflects the atmosphere you've created?
Well, I would love to say that I was responsible for the strength of their performances, but the truth is that they are just very good actors, incredibly talented and professional.

> ***"The worst sort of direction for actors, is being told 'do it like this'."***
> Will Byles, Supermassive Games

In my view, actors are at their best when they are given the room to explore their character and allowed to interpret them in their own way. Of course, there is direction, but it's just that: direction; pointing them in the direction of where you would like a scene to go and letting them do what they're good at.

The worst sort of direction for actors, in my opinion, is being told 'do it like this' and a director acting it out. It's like telling an artist where to push their pencil. Frustrating for everyone and ultimately crap.

Why is good performance so important in video games today? Why is it important in a game like *Until Dawn*?
Performance, along with almost everything else in games, is and has been limited by technology. At any stage in the last 35 years developers have had to limit themselves to the available technological constraints. It was the same in the early years of movies. When movies had no sound, performances had to be exaggerated to convey emotion. Until recently, games had very limited facial animation and body skinning techniques, meaning performances needed to be more explicit.

As technology gets better the need for over the top acting becomes less of a requirement – though may still be an artistic choice, as in the early chapters of *Until Dawn*. Subtlety of character also becomes achievable, like the gradual character transformations in the middle and end of *Until Dawn*.

Actors are also increasingly comfortable with the abstract style of capture involved, more akin to green screen than a recording booth. The danger with this level of subtlety is that there are some players that will miss it entirely – though from the reception *Until Dawn* has had, it seems very few did. ■

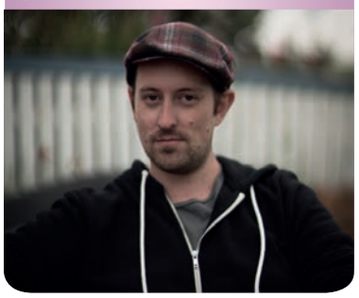
Supermassive's Will Byles says actors, such as Until Dawn star and former Heroes actress Hayden Panettiere, are increasingly comfortable performance capture in games

DEVELOP'S TOP TIPS

LIGHTING UP

Experts advise developers how to best illuminate their games and create a rich atmosphere for players to get immersed in

Chris Campbell, senior lighting artist, Crytek
Photography is a great hobby to complement CG lighting. Nothing teaches the practical application of colour, light, and composition quite like it. If you need reference of a certain time of day, shooting your own reference ensures that you know all the variables affecting the final picture, and can more easily translate it into a game environment.



Joe Davis, developer technology engineer, Imagination Technologies
For high-quality, efficient in-game lighting, the relationship between artists and programmers is critical. Programmers need to understand the technical constraints of all target platforms and explain these to the artists. Artists then need to carefully consider these restrictions and understand what sacrifices are needed to retain the style of initial concepts, while ensuring a high framerate is achieved on all targets.

As the feature set of mobile devices expands, techniques that were once considered desktop only can now be utilised on all devices. For example, deferred lighting enables developers to have many dynamic lights in a scene, although traditionally very memory bandwidth intensive features, such as programmable blending and Pixel Local Storage, enable tile-based GPUs to keep attachment data on-chip.

This keeps bandwidth consumption to a minimum, removing the bandwidth bottleneck and making these advanced techniques very achievable on mobile devices.

Ivan Pedersen, technical artist, ARM/Geomerics
1. Light a level with surface-to-surface light. Global illumination means that we bounce direct lighting from one surface to another around the level to produce the indirect lighting. By positioning surfaces so they can receive and transmit light, you can light a large part of a level with just one source.

2. Position lights far away from the player and deep in the image. This brings out the texture details and enriches the silhouette contrast in the overall atmosphere of the level. Using too many lights creates uniform and boring lighting, hence, dragging in more spotlights into a scene does not improve the lighting.

3. Light always has colour. It's very rare for the lighting to be composed of grayscale tones only – white light can make the image seem sterile and lifeless. Similarly, shadows always contain some light and this light tints the shadow with a colour.

4. Take a minimalistic approach to lighting and use global illumination to bounce light around the scene. Ensure that light always has colour tone, either from the direct lighting or the surface that it is bounced from to produce a rich image.

Aaron Clifford, 3D artist, Frictional Games
For me, the most atmospheric lighting situations all come from interesting light sources. A lamp in the middle of the ceiling often results in very flat and uninteresting lighting. Light sources can be television screens or lights behind pipes that cast long, interesting shadows. Be creative with your light sources.

John Wendl, content director, Turn 10 Studios
With the new generation of gaming consoles, we have more than enough polygons and resolution. Lighting, atmospherics and surface material response is what brings the game's graphics to life and makes it feel like a living, breathing world. It's critical to start with colour-correct source material and physically-based materials to ensure predictable, high-quality results.

Jude Bond, art director, Creative Assembly
The concept of good lighting has a long history in art, rooted in Greek mosaics and thoroughly embraced by Renaissance painters. Not only is it a powerful tool to evoke a particular mood, but it's crucial in describing 3D form. Lighting is arguably more important than the subject being lit. Good lighting can make a bad model look good, and bad lighting makes a good model look bad.

HEARD ABOUT

Scoring morality in Fable Legends

John Broomhall talks to Lionhead's Steve Brown and Fable composer Russell Shaw about an innovative musical mechanic

Lionhead's Steve Brown and Fable composer Russell Shaw created audio that swings between different variations of good and evil, depending on the player's situation

DUBBED 'PENDULUM', *FABLE Legends*' interactive music system was created to serve a key 'four-versus-one' game mechanic in which you can play as a team of four heroes or as the lone villain.

Associate audio director Steve Brown says the upcoming free-to-play game needed a music system that "could reflect whether good or evil is dominating at any given point".

"The 'Pendulum' can swing rapidly from good to bad," he says. "Heavily tied to gameplay events, it continually analyses the heroes' health versus the number of attacking creatures in play.

"Each quest is comprised of four arenas, plus 'holding areas', whilst the villain sets up creatures and lays traps for the next arena. A quest can last up to 45 minutes depending on players' skills, so wall-to-wall drum-based combat music was a complete no-no. To convey a sense of the rollercoaster ride, there are frequent thematic, melodic and tempo changes, providing an ever-changing dynamic music underscore which transitions and progresses in pleasingly musical ways. The players should feel like the score has been specifically written for their experience."

SUBLIMINAL MESSAGING

To achieve this lofty ambition, the music system – which was scripted in Unreal Engine 4 Blueprints and Wwise – has to turn on a sixpence as hero success rapidly gives way to villainy, and vice-versa. This requires significant granularity in segment size to facilitate multiple musical jumping-off points for transitions to other game/music states.

Replete with good/evil attack stingers, it's a smart-kit of parts that fit together at run-time – without cross-fades – to provide a seamless, super-reactive result that maintains compositional integrity.

"The 'switches' stand out thematically so if you, for instance, hear the villain's horn melody come in, subliminally it tells you something bad's coming down the line – and then the music kind of falls off the cliff and you're into the depths of hell," says Brown.

"But when things start to change and the Pendulum shifts, you'll hear the triumphant hero melody and everything starts to feel joyous and more 'we can do this' – it's all about the team mechanic and conveying the 'story' through music."

For series composer Russell Shaw, the biggest challenge was the project's sheer scale, requiring three hours of music recorded over two years.

"With so many different themes and styles, keeping some semblance of continuity was a constant battle," he says. "Steve and I had to come up with a hook for each theme. Usually this was something instrumental – say, glass harmonica or whatever. This helped me keep a grip on the continuity issues.

"Meanwhile, the Pendulum concept of swinging between different variations seamlessly alone entailed 80 transitions, regardless of current song position. In Cubase, I had to load both the current and target theme, and try to blend between them in a logical and musical way – extremely challenging. The fact they work so well in-game is a testament to Steve's design."

LEGENDARY SOUNDS

With so much music to record, mix and edit – and given the ultra-precision required – Brown and Shaw decided to "cut to the chase and get the best of the best".

"We recorded the Philharmonia Orchestra at Air Studios and mixed at Abbey Road," he says. "Having Simon Rhodes as engineer for all this – his CV is ridiculous – was just an incredible and humbling experience. We had around 90 players, Tiffins Boys Choir and the Pinewood Singers choir.

"I'm always trying to bring a sense of beauty and charm into *Fable*. Luckily, aside from the Pendulum suites, there were exploration-style pieces, which allowed me bring in much of the beloved *Fable* fairy-tale style of music that fans love.

"I'm always intensely critical of my own work and throw away so much before I'm even remotely happy, but with the quality of professionals working and playing on this project – well, that's half the battle really. I'm incredibly pleased with the results." ■

John Broomhall is a game audio specialist creating and directing music, sound and dialogue
www.johnbroomhall.co.uk

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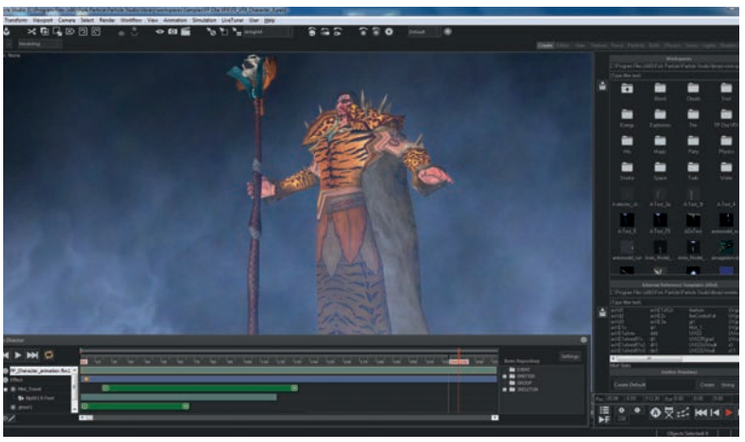
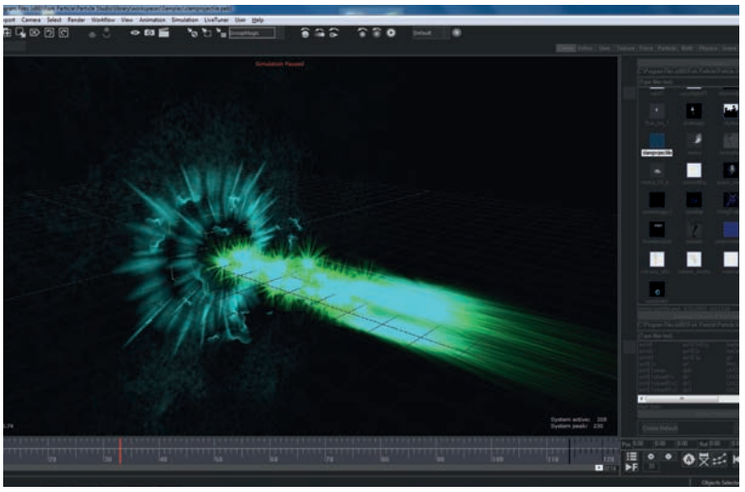
GAME TOOLS

TOOLS SPOTLIGHT

This month: **Fork Particle**





Fork Particle's Noor Khawaja says artists can use its particle editor without having to learn technical programming

FORK PARTICLE IS a tool designed to streamline a games developers' effects production pipeline.

It includes technology for the real-time playback of particle effects in games, and has been harnessed by studios across the industry for over ten years.

The suite includes particle effects editor Fork Particle Studio and real-time particle engine Fork Particle Runtime. The middleware supports titles on Xbox One, PS4, Xbox 360, PS3, PC, Linux, Mac, iOS, Android and Windows Phone.

Fork Particle head of studio Noor Khawaja says the Studio particle editor interface has been designed as an art tool, enabling artists to utilise advanced features and create high quality particle effect behaviours without having to learn technical programming, such as scripts.

"Fork Particle Studio is a proven tool which enables speedy iterations whilst artists enjoy their work and deliver top quality particle effects," he says.

"The Character Animation Effects Director feature in Fork Particle Studio allows the artist to place effects on character animation timelines so that character effects associations and playback are synchronised with the animation. In essence, artists get a single tool environment for hassle-free authoring and visualisation of particle effects used with their game character animations.

"The Fork Particle Runtime engine is fast and fully supports multi-threaded game engine environment. It is completely compatible with Intel's Thread Building Blocks SDK or other such multi-thread management systems to get the best performance on the target hardware. Fork Particle is easy to integrate into in-house and third-party game engines."

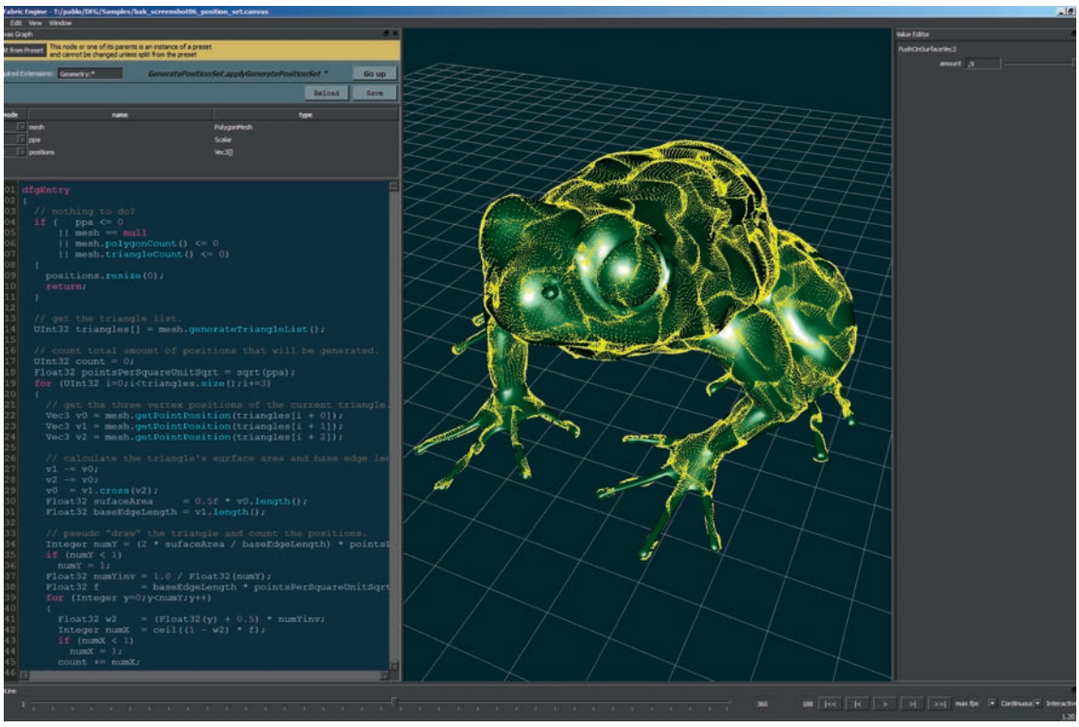
The suite of tools have been used in games such as ZeniMax's *Elder Scrolls Online: Tamriel Unlimited*, Ubisoft's *Rocksmith*, and Firaxis' *Civilization: Beyond Earth*.

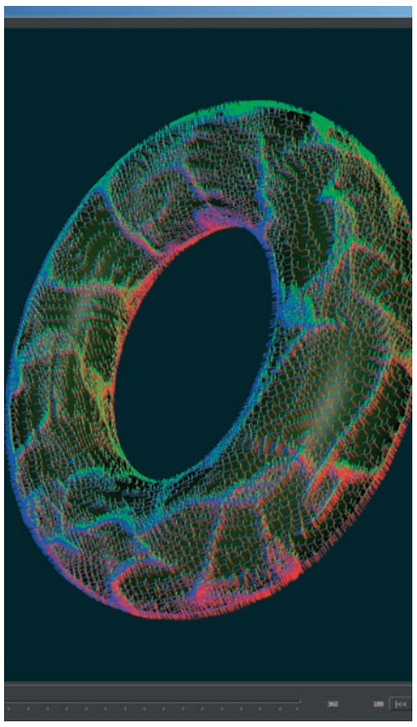
> ***"Fork Particle Studio is a proven tool which enables speedy iterations."***
>
> Noor Khawaja, Fork Particle

Licensing for the tech comes two main packages, Ultimate for PC and consoles and Mobile Pro. With Ultimate, developers can licence the tool on a per title, per platform basis with a flat fee and no royalties. Different licensing options are available for small and large studios.

Mobile Pro is available solely for mobile devs. There is also a free version that can be used for games with limited requirement for particle effects.

In future, Fork Particle plans to add a number of new features, including an Explosion Simulator, and provide deeper integration with project Perforce and Havok. ■





KEY RELEASE

Engineering Change

Fabric Engine 2 expands the ambitious, distinct solution for building powerful universal tools and applications

THE FIRST THING anybody new to the Fabric Engine concept needs to know is that it may not be the kind of game engine they're thinking of.

In its own quietly meta way, it is a tool for creating tools. At least, that is what the technology fundamentally offers the game, VFX, film, TV and visualisation industries.

"At a very high level, Fabric is a tool for building content creation tools and applications," elaborates Fabric Software CEO Paul Doyle. "The 'engine' part originally came from what we were looking at when we were building a multi-threading engine that could take care of high performance without the user themselves having to worry about that."

DATA WITH DESTINY

And now Fabric Engine 2 is here, refining and expanding the technology's base concept. As with the engine's inaugural iteration, the latest version is founded on the notion that those in creative roles – perhaps more familiar with JavaScript or, increasingly, Python – can be empowered to craft tools with the functionality and quality of those carefully structured in C++.

"That was what the original, first Fabric Engine was, and still is," confirms Doyle. "It's a core execution engine and language called KL, which serves those goals."

In other words, Fabric Engine 2 is a framework for building tools that behave like a universal plug-in that would work in a range of software, from SoftImage and MODO to 3ds Max and Maya. It's also capable of supporting the creation of standalone tools.

With the advent of open data through file formats such as FBX, the opportunity to introduce different tools into a pipeline crystallised. Creatives were no longer bound by the data of the tools they were working in.

"But that kind of created something of a headache," suggests Doyle. "It was great that people could use any tool they wanted in the pipeline, but given that on most productions you have to use custom tools, it started to multiply the amount of custom development required to support all of those applications."

For that reason, at the heart of Fabric Engine 2 sits a core idea: that users should only have to author a tool or application once before running it in many places.

So it was in the first Fabric Engine, but Doyle isn't afraid to admit improvements needed to be made back then.

"Our high level target of somebody that only knew Python; we were struggling to hit them as well as we could," he says. "So with Fabric 2, one of the main focuses for us has been to introduce a visual programming model, so that people can author Fabric and author KL without having to understand how to write code. So it would work much like Ice or Bifrost or any of those visual programming series.

"The other two major components of Fabric 2 that aren't out yet, but are coming, are a scene graph and a real-time renderer, both written in KL as well."

As such, while Fabric's debut was focused on delivering an execution engine and processing tool, Fabric Engine 2 sits far more comfortably in the realm of providing a complete application framework.

Fabric's technology also offers games developers a means to refine their content creation pipelines.

PIPING UP

"A lot of what games companies are telling us is that while a lot of things can be solved quite well now in runtime, a lot of the headaches that still exist are firstly in getting data from the content creation end of the pipeline into the engine, and the same kind of issues [also exist] within the content creation side of things," explains Doyle.

"When they're trying to build assets and characters and things like that, it's very rare that everything you need is supplied out of the box of an application. That always therefore means custom development of some kind. So the same problems we've been solving for VFX, TV and post exist within games as well."

Fabric Engine 2 promises to be highly extendible itself, and easy to integrate with other tools and even hardware inputs, to the point that it can be used to prototype behaviours in an authoring environment without having to go into an engine.

The tech is currently available with a range of free and paid options, and pitched as suited to individuals as much as large teams, Fabric Engine 2's release is just the beginning for the technology.

Next year Doyle hopes to open the doors on a third-party develop program, meaning users can share and deploy their own tools and applications. ■

www.fabricengine.com

Fabric Software CEO Paul Doyle says Fabric Engine 2 is built on the idea that users should only have to author a tool or application once before running it in many places

THE FUTURE STATE

Is it time to integrate your QA and support?

VMC's **Kirstin Whittle** on how parallel QA and support services improve products and user experiences

VMC's Kirstin Whittle believes the bundling of QA and support by a single provider can smooth out the testing process while fitting in better with tight development schedules

EVERY DEVELOPER AND publisher manages its quality assurance and customer support differently, and often separately, because QA can be seen as the opposite of support.

QA is thought of as the process of finding bugs during development so the consumer won't see them, while support is the consumer finding bugs and bringing them to the attention of the developer.

But in reality, they're both part of the same process: delivering a great user experience. Aggressive sprint cycles for regular updates and new downloadable content mean work on successful titles never stops, and that makes having efficient processes for both QA and support more essential than ever – and the hybrid model is emerging as the most effective method of ensuring quality within tight timeframes.

WHAT IS THE HYBRID MODEL?

I define it as the bundling of QA and support by a single provider with connected teams. This process allows your title to have testing, localisation and support managed simultaneously utilising a common knowledge base for economies of scale.

Consider the complexity of the knowledge transfer process with multiple service companies. First, you brief your QA partner about the project, then you brief your translation provider about the project. When that's complete, you brief the audio team and then the LQA partner next until you're finally briefing your support team about all of the issues that were identified in the process.

Each partner has a limited understanding of the previous team's work, with no simple way to cross-reference issues or ask questions of the other providers. These circumstances not only slow your development process, they increase your management time and cost, reduce accuracy and consistency, and increase the possibility of duplication of process and effort.

> ***"The hybrid QA/support model delivers the product quality and customer satisfaction you need."***
>
> Kirstin Whittle, VMC

The hybrid model streamlines this process by having every team operating from the same knowledge base and easily communicating in real-time about discovered or known issues. The hybrid process accelerates each area through improved knowledge retention and collaboration, and gives developers and publishers a single point of contact for inquiry and discussion on any aspect of the QA and support process.

Moreover, the hybrid model delivers a better experience for your users because the support team has access to the latest real-time information about bugs, patches, updates, and other known issues. This gives the support agent more authority and gives the user confidence that you're actively addressing issues on the game they want to play. Combined, this ensures an overall better impression of your company, IP, and support.

This method can deliver even further economies of scale by deploying support teams who are also trained in QA techniques. This smooths out the peaks and valleys of QA needs rising pre-launch, and user support needs increasing post-launch.

Time to market is a critical factor for regularly updated titles, so having a reliable process for effective and efficient testing and support is critical to your ability to satisfy and maintain your player base.

The hybrid QA/support model delivers the product quality and customer satisfaction you need on the development schedule your title is committed to. In other words, it's not just faster – it's better. ■

Kirstin Whittle has 23 years of experience in the UK games industry and is one of *MCV*'s 2015 Top Influential Women in Games. She manages business development in Europe for VMC. **www.vmc.com/games**

MADE WITH MARMALADE

Five reasons to try C++11

Marmalade's Andrew Parker talks us through plans to support the latest version of the widely-used language

Why use C++11?

Since its earliest days, Marmalade has used C++ as its core language and, time and again, performance, portability and popularity have been the defining characteristics of this language.

With the addition of C++11 support, we're making sure that our developers can leverage new language features that make their code more expressive, less prone to bugs and easier to maintain.

Marmalade has always been open and flexible, allowing our users to take advantage of great open source software and with C++11 support there's now the option to incorporate modern libraries and frameworks that make use of C++11.

Our goal at Marmalade is that you should never have to #ifdef your code to cater for compiler-specific behaviours and gotchas.

www.madewithmarmalade.com

C++11 WAS RATIFIED as a standard years ago. Why is Marmalade now able to offer support for it?

Andrew Parker, Senior SDK Engineer: Just because the standard was ratified, it didn't suddenly mean you had a weath of new tools at your disposal. Creating a new standard is one thing, implementing it is another.

In order for vendors to offer C++11 environments, they needed to update their C++ libraries – source code and headers – as well as update their compilers and runtimes. Sadly this is not something that's quick to do.

We also needed all of the compilers we use and underlying platforms to support C++11. We believe we're now at a time where the common support amongst all our supported platforms is good enough to make supporting C++11 both feasible and worthwhile to our developers.

So what new features are the most interesting?

I can't talk about everything in C++11 here, so instead, here are five of my favourite features of C++11.

1. Move semantics and r-value references

This one is for the optimisers and performance geeks. Move semantics cut down a huge number of unnecessary constructor calls. Compilers have tried to optimise unnecessary calls away but now the language gives you a way to ensure those disappear.

At a previous company, we saw a ten per cent performance increase in string heavy parts of our library when we started using a compiler with move semantics

2. Threads are no longer the elephant in the room

The C++ standard finally acknowledges the existence of threads. Not only do you get a standard API for manipulating threads – std::thread and std::atomic – but those threads now have a rule book to play by. It means we have portable threading code at long last.

> ***"Move semantics cut down a huge number of unnecessary constructor calls."***
>
> Andrew Parker, Marmalade

3. Smart pointers and the death of auto_ptr

Finally, we can stop importing Boost just to handle pointers. Pretty much everyone coding in C++ will have had to address the issue of smart pointers. Most major C++ codebases will use one form or another of them. Now they're here, out of the box.

And you can take auto_ptr off to the big farm out in the countryside: unique_ptr is the new kid in town – although its real power comes from move semantics.

4. Delegating constructors

For the fans of DRY – of which I am one – come delegating constructors. Code maintainability just got a little easier.

5. Type traits

Perhaps one for meta-programmers, but type_traits can let you do some pretty cool tricks with templating. Alternatively, you can use them to make life miserable for your fellow developers when trying to understand your code.

Are there any downsides to using C++11?

Like anything that's fun in life, there are always downsides. For C++11 in Marmalade, the major headaches are with Windows support. The compilers in Visual Studio are not C++11 compliant and also the compiler is far from GNU compliant. Getting libc++ to work with Windows has been tricky.

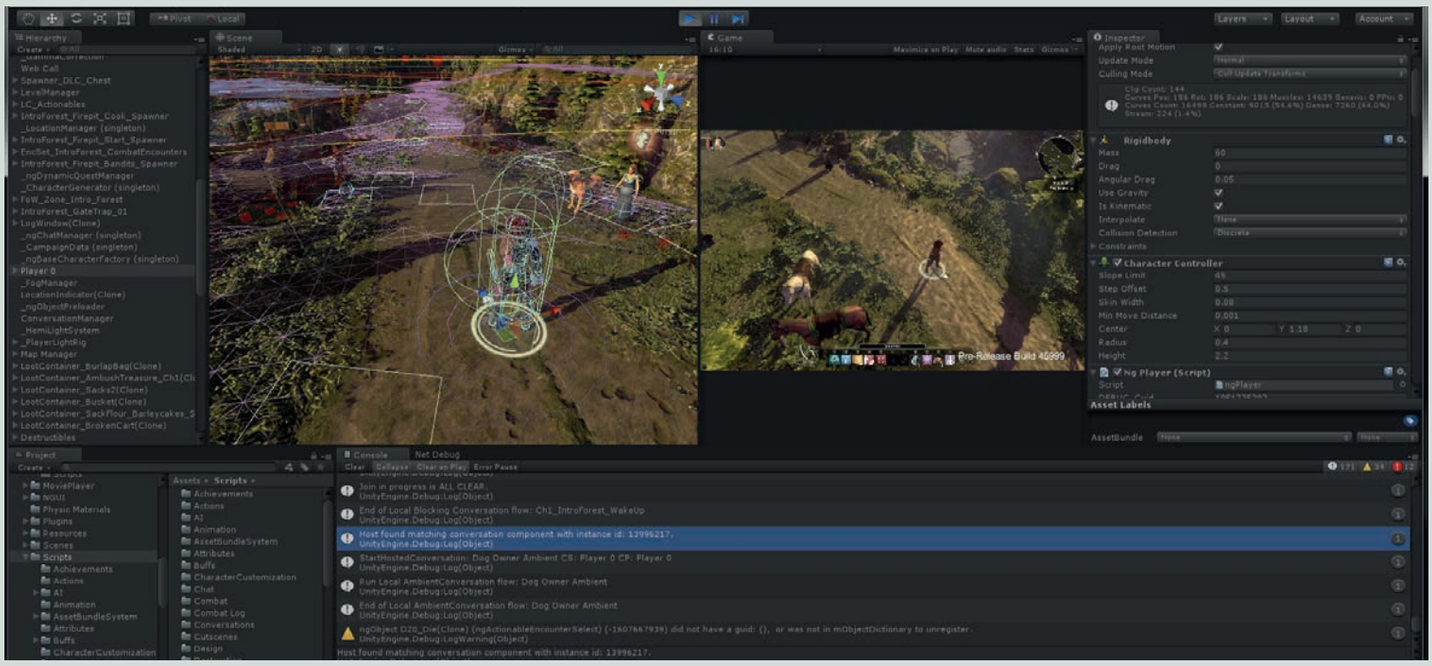
There are a few features that won't work right now. Over time we will endeavour to reduce that set of problems, and hopefully as Microsoft Visual C++ improves its C++11 support, many of these issues will go away.

Right now, the set of features that do work is still vast and hopefully enough to let you build performant C++ applications more quickly with modern coding practices.

How can developers get involved?

We're running an open beta: just head over to **bit.ly/1ESa8lB**. ■

Marmalade's Andrew Parker says the set of features that work in the C++11 beta are vast, and enough to build C++ applications more quickly with modern coding practices



UNITY FOCUS

Return to the Sword Coast

We find out how Unity's modular design and quick iteration helped N-Space shape its recent release

N-Space technical director Ross Gardner says the fast iteration time and stability of C# was ideal for the studio's small team

KNOWN AS A work-for-hire studio, N-Space has branched out this year with *Sword Coast Legends*, an independent project based on the classic *Forgotten Realms* RPG brand and developed in partnership with *Warframe* dev Digital Extremes.

For technical director Ross Gardner, the priority was to find technology that would enable the team to create a game reminiscent of past RPGs, but also accessible to modern players.

"Right from the get-go we said we wanted SCL to feel like the *Baldur's Gate* and *Icewind Dale* games we remember playing, but not be exactly like the game you did play," he explains. "You always remember things more fondly than they are.

"We want to evolve the genre and at the same time immerse people in the *Forgotten Realms* we all know and love. I think the seamlessness with which *SCL* allows players to play online together is something really special."

Gardner goes on to say that using Unity was "a natural choice" for n-Space, given that it was the most cost effective engine at the time.

"The fast iteration time and stability of working with C# was ideal for our small team," he says. "To be honest, we could not have made the game that we made with all the features we have with any other engine, but it has not been a fun experience getting to launch with it.

"We're pushing it to limits that I'm sure not many games out there are reaching, especially with all of our dynamic content and even the sheer size of it.

"One of our biggest challenges was just the sheer complexity of the game. On top of the massive story-based RPG, it supports co-op and has a full Dungeon Master campaign creation mode."

In addition to the team's dedication – with Gardner reporting that devs would often volunteer to stay late in the office, even on Friday nights – the structure and modular design of Unity helped ensure the entire studio worked as efficiently as possible on *Sword Coast Legends*.

> ***"It's rare that a plugin does not have native Unity support. It's hard to put a price on this."***
>
> Ross Gardner, N-Space

The ability to run the game within the Unity editor, modify data in real-time and integrate with Mono or .NET were also benefits, as N-Space could prototype quickly.

"Another feature that is not oft talked about is all the support out there for Unity from third-party software companies," he continues. "It's rare that a plugin does not have native Unity support, and takes more than 30 minutes to integrate. It's hard to put a price on this.

"I'd also like to call out the custom editor scripts. That is brilliant. The debug tools that we have written in-house are fantastic, and it's all thanks to how easy it is to write custom editor tools."

Sword Coast Legends is one of the many games built in Unity 5. Gardner says that this was essential to get the game running the way they wanted to, particularly on console.

"Unity is always evolving and iterating," he says. "The firm is pouring a huge amount of resources into evolving and growing the engine – we'd be crazy to not take advantage of that, especially for the price. Unity 5 has a lot of great features and I'd recommend it for anyone doing Unity development."

For any developers considering using Unity, Gardner offers the following advice: "For smaller teams like ours, and for smaller games, it's a great engine, and some of the new features like the UI and networking are making it even better.

"Use the asset store whenever you can. Prefabs, with custom components, are a loaded weapon: amazing but also dangerous – especially with larger games. And of course, watch out for that garbage collection." ■

Sword Coast Legends
Publisher: Wizards of the Coast
Developers: N-Space / Digital Extremes
Platform: Xbox One, PS4, PC, Mac, Linux
www.swordcoast.com

UNREAL DIARIES

Getting a grip on VR input

Bullet Train for Oculus Touch unleashes new gameplay

EPIC GAMES HAS invested in ambitious virtual reality technology and content with each step in the hardware evolution.

In order to explore the possibilities of the new medium, particularly over the past 18 months, the studio has built a series of leading-edge demos: *Couch Knights* first demonstrated the capabilities of the Oculus Rift DK2, and then *Showdown* pushed the Oculus Rift Crescent Bay forward.

Most recently, using the Oculus Touch controllers for locomotion, Epic created *Bullet Train*, a world-scale VR gunfight experience with gameplay that weaves in and out of bullet time.

The demo was met with praise at Oculus Connect 2, where speakers at the conference discussed how they're using Unreal Engine 4 to achieve their creative vision and technical quality bar for VR experiences, including Oculus' *Toybox* and Oculus Story Studio's *Henry*.

Epic's Ray Davis says: "When you first jump into VR development, there are a few requirements that become rapidly apparent: you need a rich rendering feature set to craft compelling visuals for the experience, and you must maintain a high level of performance to avoid discomfort.

"You'll also likely need features such as physics simulation and particle effects to create worlds that respond in believable ways, and allow you to make truly immersive experiences that take full advantage of VR."

Davis also described how Blueprint visual programming enables anyone, even without any prior programming experience, to add logic and interactivity to VR worlds and characters.

"All of these tools are effectively required for building modern high-fidelity games, and we've been refining them through many years of first-hand games development, which means VR developers using Unreal Engine are able to hit the ground running that much quicker," Davis adds.

> ***"In VR you need a rich rendering feature set to craft compelling visuals for the experience."***
>
> Ray Davis, Epic Games

While Bullet Train was developed to demonstrate the capabilities of the Oculus Touch controls, Epic maintains that Unreal Engine 4 is platform-agnostic when it comes to VR. For example, with Unreal Engine 4.9, HTC Vive controller features are exposed through a common abstraction layer for universal VR controller support.

The point of *Bullet Train* is to take VR gameplay to the next level through input, with a highly dynamic environment where hand interactions can be layered together for complex combat. The demo's teleportation mechanic can slow time, aid in weapon manipulation and make traversing the virtual train station quick, easy and comfortable.

That being said, Davis says teleporting ratchets up the intensity.

"It keeps the pacing faster overall, and it also forces you to use clever design tricks," explains Davis. "For example, when a player teleports, let's always make sure to face him or her toward the centre of the action. So, you're never wondering 'Where am I? Where did all the fun stuff go?'"

The new wave of VR controllers will continue to open up new forms of interaction. In contrast to *Bullet Train*'s overture to gamers, Oculus' sculpting experience *Medium*, also built with UE4, enables people to use Oculus Touch controls to shape clay-like materials into pieces of virtual art.

Epic is sharing lessons learned from making *Bullet Train* at events and on **www.youtube.com/unrealengine**. ■

UPCOMING EPIC ATTENDED EVENTS

Unreal Engine 4 for Mobile Developers
November 5th
San Francisco, California

VR Intelligence
November 9th to 10th
San Francisco, California

Montreal International Game Summit
November 15th to 17th
Montreal, Quebec

*Email **licensing@epicgames.com** for appointments and sign up for Epic's newsletter at unrealengine.com.*

Epic's Bullet Train demo, built with Unreal Engine 4, depicts a world-scale virtual reality gunfight experience with 'bullet time' gameplay mechanics

Epic is hiring. To find out more visit: **epicgames.com/careers**

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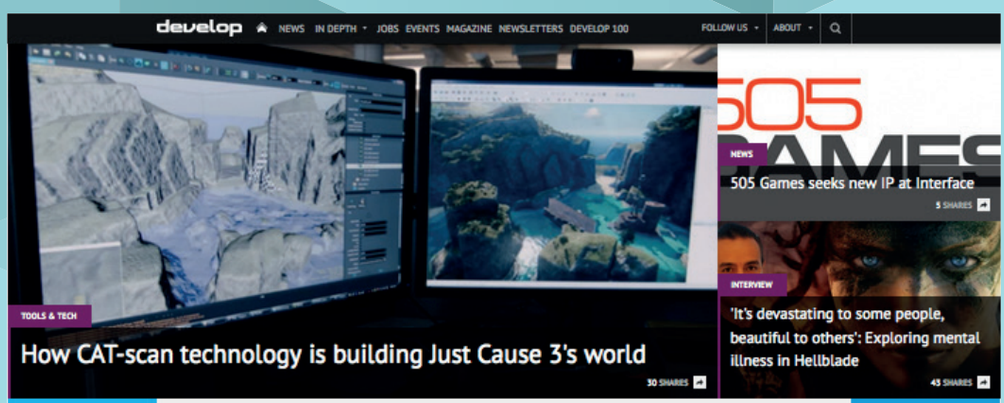

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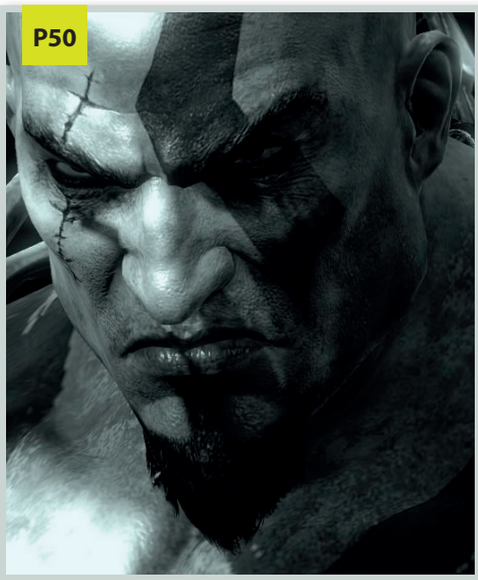

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Serbia-based outfit 3Lateral specialises in the creation of high-end characters for both game and film.

The studio offers services from initial character design all the way up to a full, articulated model. This includes creating concepts, modelling, character rigging, face rigging, 3D scanning, simulation and pipeline consultancy.

> ***"Our projects usually entail 3D scanning as a service, asset production and rigging."***
> Vladimir Mastilovic

As well as this, it offers its own middleware such as Rig Logic, which runs its facial rigs directly into the game. This, it claims, provides significant animation memory savings and allows for dynamic responses on character faces to the in-game environment.

The firm has worked on numerous triple-A projects, including Rockstar's blockbuster hit *Grand Theft Auto V*, Crytek's *Ryse: Son of Rome*, Cloud Imperium's *Star Citizen*, Remedy's *The Order: 1886* and Guerrilla Games' upcoming *Horizon: Zero Dawn* (*pictured right*).

Speaking to *Develop*, 3Lateral CEO Vladimir Mastilovic says the company aims to specialise in the creation of high-end characters, rather than offer a variety of other services. He says the company "isn't interested in doing everything, just what we do really well".

"Our projects tend to look quite similar to one another, the main difference between them being us always pushing for a higher quality product than before," says Mastilovic.

"Our work also usually entails consultancy with regards to 3D scanning or 3D scanning as a service, asset production, rigging and collaboration with our partners at Cubic Motion, who animate assets we produce.

"Probably the most important part of our involvement is consultancy on how to efficiently use the large data sets we produce in the engine – in

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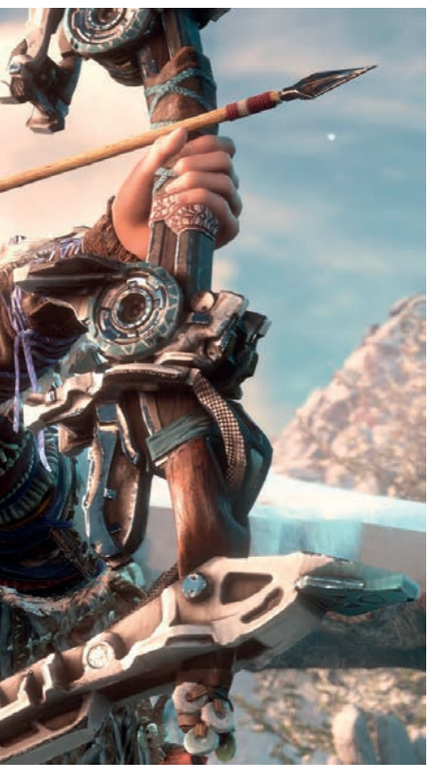

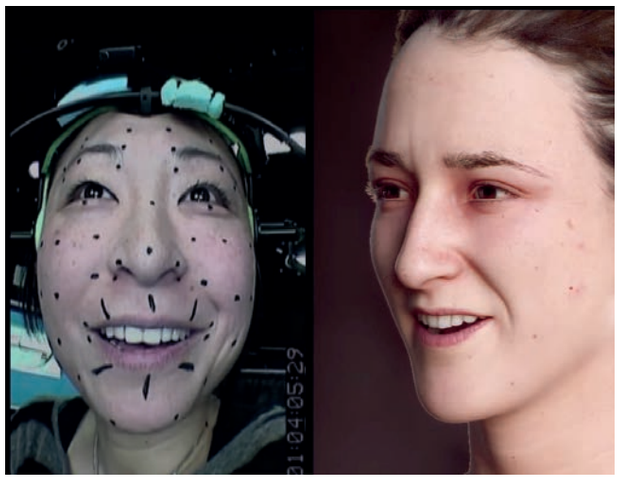

> ***In the future we'll have more middleware products and also standalone software.***
> Vladimir Mastilovic

collaboration with our clients' engineering teams of course. This workflow fairly well describes our involvement on games like *Horizon: Zero Dawn*, *Star Citizen* and *Ryse*."

Though it has been working with some top triple-A studios, 3Lateral plans on continuing to expand it services due to what Mastilovic says is high demand for its offerings. Future plans include new middleware to provide clients with, which will compliment its character creation and facial rigging services.

"Our company is fast growing and in the future you can expect us to grow and also to expand beyond the service model: we'll have more middleware products but also standalone software which will help the users achieve the quality we're currently providing through our service," he said. ■

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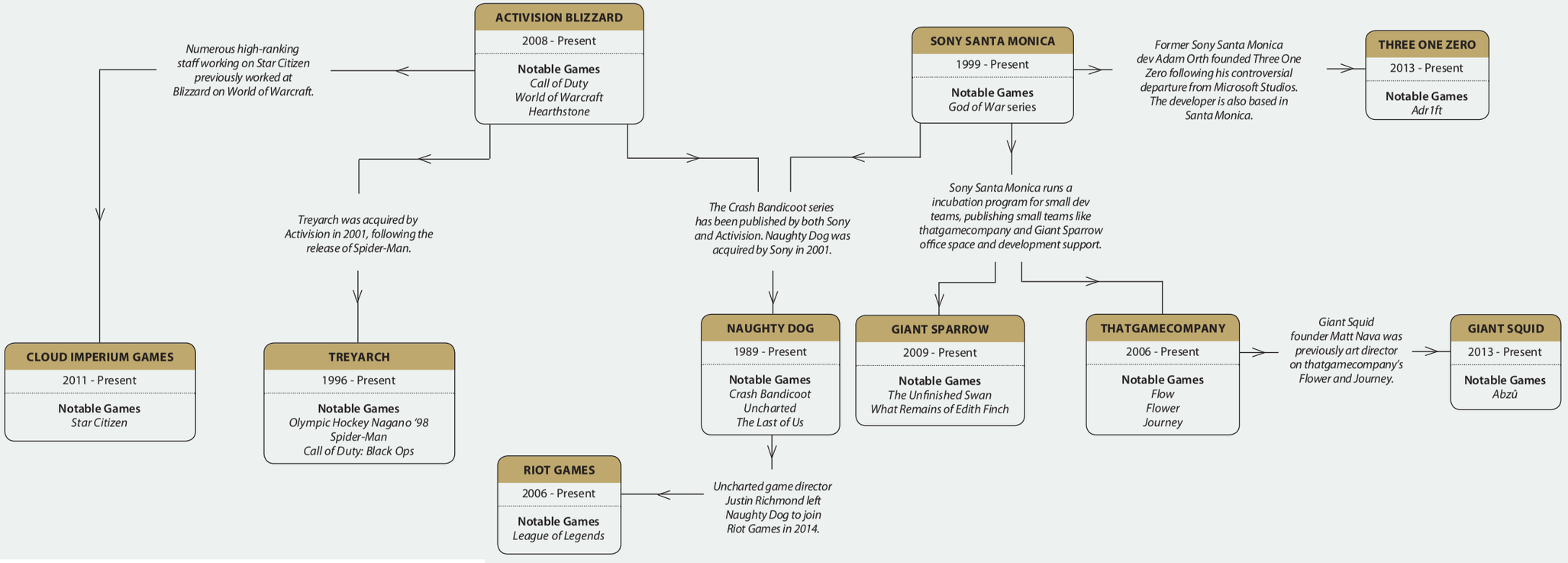
ACTIVISION BLIZZARD
2008 - Present
Notable Games
Call of Duty
World of Warcraft
Hearthstone
Numerous high-ranking staff working on Star Citizen previously worked at Blizzard on World of Warcraft.
SONY SANTA MONICA
1999 - Present
Notable Games
God of War series
Former Sony Santa Monica dev Adam Orth founded Three One Zero following his controversial departure from Microsoft Studios. The developer is also based in Santa Monica.
THREE ONE ZERO
2013 - Present
Notable Games
Adr1ft
Treyarch was acquired by Activision in 2001, following the release of Spider-Man.
The Crash Bandicoot series has been published by both Sony and Activision. Naughty Dog was acquired by Sony in 2001.
Sony Santa Monica runs a incubation program for small dev teams, publishing small teams like thatgamecompany and Giant Sparrow office space and development support.
CLOUD IMPERIUM GAMES
2011 - Present
Notable Games
Star Citizen
TREYARCH
1996 - Present
Notable Games
Olympic Hockey Nagano '98
Spider-Man
Call of Duty: Black Ops
NAUGHTY DOG
1989 - Present
Notable Games
Crash Bandicoot
Uncharted
The Last of Us
GIANT SPARROW
2009 - Present
Notable Games
The Unfinished Swan
What Remains of Edith Finch
THATGAMECOMPANY
2006 - Present
Notable Games
Flow
Flower
Journey
Giant Squid founder Matt Nava was previously art director on thatgamecompany's Flower and Journey.
GIANT SQUID
2013 - Present
Notable Games
Abzû
RIOT GAMES
2006 - Present
Notable Games
League of Legends
Uncharted game director Justin Richmond left Naughty Dog to join Riot Games in 2014.

THIS MONTH:
Santa Monica

Lee Bradley takes a look at the Californian beachfront city's bustling games development hub that is home to many of the biggest names in the industry

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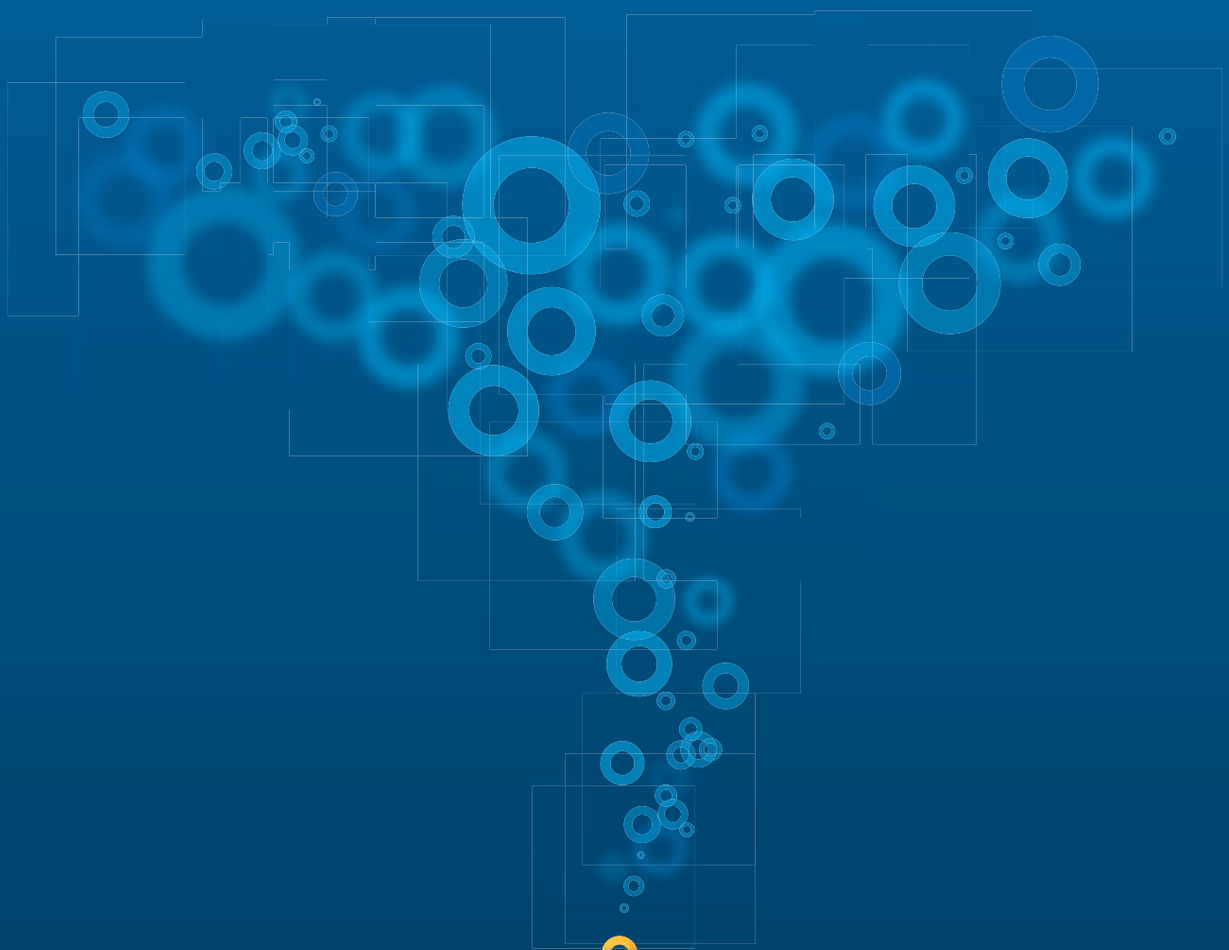

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